

Original Article

HIV-related vulnerabilities among male overseas employment seekers at pre-departure training centres in Colombo, Sri Lanka

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Abstract

Introduction: A notable proportion of Sri Lankan HIV patients report external migration with male preponderance. To address STI/HIV related vulnerabilities of the male employment seekers, the Sri Lanka Bureau of Foreign Employment (SLBFE) is conducting a pre-departure training.

Objectives: This study aimed to explore HIV-related Vulnerabilities among prospective male overseas employment seekers at pre-departure training centres in Colombo.

Methods: A descriptive cross-sectional study was conducted among 432 male overseas employment seekers attending SLBFE pre-departure training in Colombo. Data were collected using interviewer-administered questionnaire. assessing HIV knowledge (10-items awarding 1 mark to correct answer). Attitudes (seven 5-point Likert scale questions awarding -2 to +2 to each response) and high-risk behaviors for HIV. Composite knowledge and attitude scores were calculated for each individual. Data analysis done for measures of central tendency and dispersion. associations were calculated using chi-squared testing with level of significance considered at $p < 0.05$.

Results: The mean age of participants was 27.86 years ($SD=7.38$) and 70.0% heading for Middle East. One-in-five (21.0%) demonstrating low level of HIV knowledge. Better knowledge was seen with higher educational levels ($p < 0.001$). More than one-third (36.2%) showed a negative attitude towards HIV. Among 331 who reported sexual exposures ever, 32.9% had engaged in high-risk practices.

Conclusion: A significant portion of the sample demonstrated inadequate HIV awareness, negative attitudes and high-risk behaviours which poses a high risk of acquiring HIV. Further research is needed to understand low condom use and assess risks among returnees from overseas employment.

Key words: HIV risk, HIV knowledge, Male Migrant workers, overseas employment, Pre-departure training

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Introduction

Migration had significantly contributed to Sri Lanka's economy over the years and is a main mode of national income.(1) Historically, women dominated this workforce, but since 2015, men constitute the majority of international labour migrants from Sri Lanka, reaching 66.4% in 2021.(2) This shift could have partly influenced by the policy changes by the Sri Lanka Bureau of Foreign Employment (SLBFE) promoting male and skilled labour migration. Migrant workers, often engaged in demanding jobs with low salaries and limited healthcare access, face considerable challenges, including exploitation, discrimination, and abuse.(3) The Sri Lankan government has implemented measures like a National Migration Health Policy and compulsory pre-departure training, including a sexual health module, to mitigate these risks. While female workers receive extensive sexual health training, male workers have a shorter program, including a two-hour lecture on STIs and HIV.

Sri Lanka has maintained a low-level HIV epidemic since its first reported case in 1987. However, the number of new HIV infections is rising, particularly among men. In 2022, 607 new HIV infections were reported, with male-to-male sex accounting for 52.0% of reported cases having mode of transmission data. (4) The male-to-female ratio of new HIV patients in 2023 was 7.4:1, indicating a growing need for male-focused HIV services. Male external migrant workers are at increased risk of acquiring HIV and other STIs due to isolation, new economic freedom, and multiple sexual encounters abroad.(5,6) A significant proportion of HIV patients in Sri Lanka give a history of external migration, particularly from the Middle East.(4,7) Despite this, there's no behavioural surveillance in this group and limited studies exploring HIV risk among male prospective migrant workers from Sri Lanka.

This study aims to address this gap by exploring the HIV-related Vulnerabilities among prospective male overseas migrant workers from Colombo through assessing their knowledge, attitudes, and risk behaviours related to HIV, ultimately contributing to targeted interventions and better HIV prevention strategies for this vulnerable population.

Methodology

This descriptive cross-sectional study was conducted from December 2018 to March 2019 at the Sri Lanka Bureau of Foreign Employment (SLBFE) pre-departure training center in Pannipitiya, Colombo, which solely conducted training for male foreign employment seekers during the study period. The study population comprised all male foreign employment seekers undergoing pre-departure training. Ethical approval was obtained from the Ethics Review Committee of the Postgraduate Institute of Medicine. A consecutive sampling method was employed inviting all consenting male trainees until the required sample size was achieved. The sample size was calculated using the formula $n = \frac{z^2 p(1-p)}{d^2(8)}$, with a 95% confidence interval and 5% precision, hypothesizing a 50% level of satisfactory HIV knowledge. This yielded a sample size of 384, adjusted to 403 to account for a 5% non-response rate.

Data were collected using a pre-tested, interviewer-administered questionnaire, developed in English and translated into Sinhala and Tamil, ensuring accuracy through re-translation. The questionnaire, comprised five sections: socio-demographic and employment details, HIV knowledge and attitudes (adapted from national surveys)(9–11) , HIV-related risk behaviours and perceived risk (using a modified 8-item scale by Napper et al.)(12) and knowledge and perceptions on HIV screening.

HIV knowledge was assessed using 10-item questionnaire, with one point awarded for each correct answer. No points were awarded for incorrect or 'don't know' responses. A composite HIV knowledge score was calculated for each participant and categorized as 'Very poor' ($\leq 25\%$), 'Poor' (26-50%), 'Satisfactory' (51-75%), and 'Good' ($\geq 76\%$).

Attitudes were measured using a 7-item questionnaire, with responses recorded on a 5-point Likert scale ranging from 'strongly disagree' to 'strongly agree'. For positively attitude statements, 'strongly agree' was assigned 2 points, while 'strongly disagree' -2 points. For negative attitude statements, this scoring was reversed. A composite attitude score was computed by summing the scores across all

seven items for each individual and classified based on 'Positive' (≥ 1), 'Neutral' (= 0), or 'Negative' (≤ -1) attitude scores.

Data collection was performed by a trained interviewer, ensuring confidentiality and privacy. Written informed consent was obtained from all participants. Data were coded, entered using Epidata software, and analyzed with SPSS (Version 23). Descriptive statistics were used, and associations between variables were assessed using the Chi-Square test, with statistical significance set at $p < 0.05$.

Results

A total of 432 prospective male overseas employment seekers were interviewed.

Socio-demographic and prospective employment characteristics

The study participants were exclusively male, with a mean age of 27.86 years ($SD=7.38$). The majority were <30 years of age (67.7%) never-married (63.9%) individuals from the Western Province (80.8%), possessing at least GCE Ordinary Level education (84.0%). Most (85.0%) reported having dependents on their prospective foreign income. Details on the socio-demographic profile and characteristics of their anticipated foreign employment are presented in Table 1. The primary destination for employment was the Middle East (70.0%), with over half (52.1%) seeking skilled worker positions. A significant proportion (87.0%) had no prior overseas travel experience.

Table 1: Socio-demographic and Prospective Employment Characteristics of Study Participants (n=432)

Socio-demographic characteristic		No.	%
Age	<20	19	4.4
	20-29	274	63.4
	30-39	96	22.1
	≥ 40	43	9.9
Marital Status	Never Married	276	63.9
	Married	151	35.0
	Separated/Div/Widower	5	1.1
Educational Level	O/L Completed or higher	363	84.0%
	Below O/L Completed	69	16.0%
District of Residence	Western Province	349	80.8%
	Other	83	19.2%
	Yes	56	13%

Ever Visited Abroad`	No	376	87%
Prospective Employment			
Destination Region	Middle East	302	70.0%
	Europe	83	19.2%
	Asia/East Africa	47	10.8%
Occupation Category (ISCO-08)	Skilled Worker (SL-2)	225	52.1%
	Elementary Occupations (SL-1)	132	30.6%
	Other (SL-3, Professionals, etc.)	75	17.3%
Expected Employment Duration	1-2 Years	215	49.8%
	Don't Know	118	27.3%
	Other	99	22.9%
Dependents on Income	Yes	367	85.0%
	No	65	15.0%

Knowledge on HIV and AIDS

Except for one, all others (n=431) had heard about HIV. Correct responses given to questions on HIV knowledge is summarised in Table 2

Table 2: Frequency distribution of knowledge on HIV (n=431)

	Correct response	%
healthy-looking persons can have HIV	261	60.6%
HIV transmission from mosquito bites	248	57.5%
HIV transmission from sharing toilet	302	70.1%
HIV transmission from mother to child	351	81.4%
HIV transmission from sharing contaminated needles	392	91.0%
Risk of transmission of HIV more with anal sex than vaginal sex	297	68.9%
Reduction of HIV transmission by having only one uninfected partner	344	79.8%
Prevention of HIV transmission by condom use	365	84.7%
Availability of ART	158	36.7%
Presence of a test to identify HIV?	333	71.0%

Possibility of HIV transmission through sharing needles was known by 91.0%. Over two thirds knew HIV prevention via condom use (84.7%) or limiting to a single uninfected partner (79.8%). However, only 68.9% knew that anal sex carries a higher risk of transmission than vaginal sex. Furthermore, 60.6% knew healthy looking

people can have HIV and only 36.7% were aware of the availability of Antiretroviral Therapy (ART).

With regards to the overall composite HIV knowledge levels, the final score was graded as good (76-100%), satisfactory (51-75%), poor (26-50%) or very poor (<25%). While nearly half (47.0%) exhibited "good" knowledge, and 31.9% had satisfactory knowledge, a notable 21.0% (n=91) had either "poor" or "very poor" knowledge.

Factors associated with HIV knowledge is shown in table 3. A statistically significant association

was found between higher educational levels and better composite HIV knowledge ($p<0.001$).

The main sources of HIV information reported were healthcare providers (30.9%) and pre-employment training (24.1%). Most

participants (50.8%) preferred to receive HIV information through health services. Awareness of the legal aspects of sexual activities in their destination countries was generally low, with over half unaware of laws concerning sex work (55.7%), male-to-male sexual relationships (68.7%), and extramarital relationships (57.3%)

Table 3. Factors associated with the level of HIV knowledge

Associated factor		Knowledge Score Category			
		Unsatisfactory	satisfactory	Total	
Age	=<25 years	52 (24.1%)	164 (75.9%)	216(100.0%)	p-0.125
	>25 years	39(18.1%)	177(81.9%)	216 (100.0%)	
Level of education	OL or lower	77 (27.0%)	208 (73.0%)	285 (100.0%)	p-<0.001
	AL or higher	14 (9.5%)	133 (90.5%)	147 (100.0%)	
Administrative Area	PS(rural)	54 (19.0%)	230(81.0%)	284 (100.0%)	p-0.148
	UC /MC (urban)	37(25.0%)	111(75.0%)	148 (100.0%)	
Occupation category	High / middle skilled	65 (21.7%)	235 (78.3%)	300 (100.0%)	p-0.644
	Low skills	26 (19.7%)	106 (80.3%)	132 (100.0%)	

Table 4. Frequency distribution of participants' attitudes on HIV/AIDS (n=431)

	Strongly disagree (%)	Disagree (%)	No idea (%)	Agree (%)	Strongly Agree (%)	Total (%)
If a relative of yours became ill with HIV, you would be willing to care for her in your household	68 (15.8%)	68 (15.8%)	133 (30.9%)	109 (25.3%)	53 (12.3%)	431 (100.0%)
If a student has HIV, but is not sick, he or she should be allowed to continue attending school.	69 (16%)	74 (17.2%)	76 (17.6%)	108 (25.1%)	104 (24.1%)	431 (100.0%)
If you knew a shopkeeper or food seller had HIV, you would buy food from them	175 (40.6%)	90 (20.9%)	86 (20.0%)	58 (13.5%)	22 (5.1%)	431 (100.0%)
If a member of your family had HIV, you would want it to remain a secret	76 (17.6%)	70 (16.2%)	101 (23.4%)	91 (21.1%)	93 (21.6%)	431 (100.0%)
I would Like to work with colleague infected with HIV	98 (22.7%)	91 (21.1%)	100 (23.2%)	107 (24.8%)	35 (8.1%)	431 (100.0%)
I believe that HIV/AIDS is punishment for bad behaviour	89 (20.7%)	86 (20.0%)	76 (17.7%)	68 (15.9%)	110 (25.6%)	429 (100.0%)
I believe that AIDS is a preventable disease.	64 (14.8%)	61 (14.2%)	71 (16.5%)	104 (24.1%)	131 (30.4%)	431 (100.0%)

Attitudes on HIV and AIDS

Responses received to HIV attitude questions are summarized in Table 4.

Negative attitudes were particularly pronounced regarding buying from an HIV-positive shop owner (40.6% strongly disagreed) and working with an HIV-infected colleague (22.7% strongly disagreed). Conversely, positive attitudes were observed towards HIV being a preventable disease (30.4% strongly agreed) and allowing HIV-positive children to attend school (24.1% strongly agreed).

With regards to the overall attitude scores towards HIV, out of 431 individuals, the majority (52.4%) demonstrated a positive overall attitude score, while a significant proportion (36.2%) exhibited negative overall attitude score and 11.4% had neutral scores.

Statistically significant associations were found between overall attitude scores and both educational level ($p=0.002$) and composite HIV knowledge score ($p=0.001$). Table 5)

HIV-related risk behaviours

Most participants ($n=331$, 76.6%) reported having had penetrative sexual exposure in their lifetime. The mean age of first sexual intercourse was 21.28 years. While 96.0% reported sex with females, 7.9% reported sex with a male partner

at least once, and 3.9% reported bisexual practices. Within the three months preceding the study, 81.0% reported sexual activity. Among these, 47.8% had sex with a non-regular female partner, 9.3% with a commercial partner, and 7.5% with a male partner. Fifty-six individuals reported having multiple partners (male or female) in this period.

Condom use was suboptimal, with only 36.3% reporting consistent use during their last sexual exposure. While 80.0% used condoms with commercial partners, this dropped to 17.2% with non-regular female partners and 25.0% with male partners. Alcohol use was common (81.5%), and 16.9% reported recreational drug use. Notably, 33.6% reported having sex under the influence of alcohol, and 12.3% under recreational drugs, in the last 12 months. Two individuals (0.5%) reported injecting drugs. With regards to the prevalence of identified high-risk sexual practices for HIV acquisition, 32.9% ($n=142$) of the study sample exhibited at least one such practice.

Only 32.2% had undergone HIV testing during their current pre-employment preparations. Awareness of local HIV testing services was limited, with only 46.6% knowing where to get tested

Table 5. Factors associated with HIV Attitude score

Associated factor		Attitude score category			
		Unfavorable	Favorable	Total	
Age	≤25 years	107(49.5%)	109(50.5%)	216(100.0%)	p-0.441
	>25 years	99(45.8%)	117(54.2%)	216(100.0%)	
Level of Education	Ordinary level or lower	151 (53.0%)	134 (47.0%)	285 (100.0%)	p-0.002
	Advanced level or higher	55 (37.4%)	92 (62.6%)	147 (100.0%)	
Administrative Area	PS(rural)	142 (50.0%)	142 (50.0%)	284 (100.0%)	p-0.182
	UC /MC (urban)	64 (43.2%)	84 (56.8%)	148 (100.0%)	
Occupation category	High / moderate skilled	140 (46.7%)	160 (53.3%)	300 (100.0%)	p-0.523
	Low skilled	66 (50.0%)	66 (50.0%)	132 (100.0%)	
HIV Knowledge score	Unsatisfactory	58 (63.7%)	33 (36.3%)	91 (100.0%)	p-0.001
	satisfactory	148 (43.4%)	193 (56.6%)	341 (100.0%)	

Discussion

This study investigated HIV acquisition risk and perceptions among 432 male Sri Lankan overseas employment seekers undergoing pre-departure training in Colombo. Participants were predominantly young (mean age 27.86), from low socio-economic backgrounds, with GCE O/L education, and largely heading to Middle Eastern countries for skilled or low-skilled jobs, often with dependents.

While 99.8% were aware of HIV, knowledge gaps existed, particularly regarding transmission via mosquito bites (57.5% correct) and healthy-looking persons (60.6% correct), and anal sex risk (31.1% unaware). The HIV knowledge of the sample is better when compared with international studies.^(13,14) Higher education correlated with better knowledge, with health services and pre-employment training being key information sources. Most were unaware of destination countries' legal frameworks concerning sexual activities.

Attitudes towards HIV were mixed and more persons (52.0%) showed positive overall attitudes, while 36.2% demonstrated negative attitudes.

Risky sexual behaviours were prevalent: 76.6% had past penetrative sex, 7.9% reported sex with males, and 56 individuals had multiple partners in the last three months. Condom use was low overall (36.3% last sex), especially with regular partners, but higher with commercial partners. These have been identified in international studies as a cause for higher risk of acquiring HIV.^(5,6) Overall, 32.9% in the study sample exhibited high-risk sexual practices.

Assessment of Overall Risk of acquiring HIV.

The study identified three key proxy indicators for elevated HIV risk. A significant 21.0% demonstrated poor or very poor understanding. Furthermore, 36.2% exhibited negative attitudes towards HIV, and 32.9% reported engaging in high-risk sexual practices. This combination of knowledge gaps, negative attitudes, and risky behaviours collectively places this population at a considerable risk of acquiring HIV. Uptake of HIV testing was sub optimal and awareness of

local HIV testing services was limited, further increasing their vulnerabilities.

Limitations include lack generalizability due to the study being conducted in a single centre. Furthermore, data being collected through an IAQ has the potential for social-desirability bias.

Conclusion

This study highlights the vulnerability of male Sri Lankan overseas employment seekers to HIV acquisition. The participants are primarily young, never-married men from low socioeconomic backgrounds heading to the Middle East. While HIV awareness is high, 21.0% exhibit poor knowledge, particularly regarding transmission misconceptions and anal sex risk. Most are also unaware of sexual activity laws in their destination countries, increasing their legal risks.

Sexual behaviours show concern: condom use is suboptimal (36.3% last sex), and 32.9% reported high-risk sexual practices. Despite this, many perceive their own HIV risk as low.

The combination of limited knowledge, negative attitudes, and high-risk behaviours poses a significant overall HIV risk for this population. Strengthening health education and improving access to free HIV/STI testing are crucial interventions.

References

1. The Central Bank of Sri Lanka. Annual Report 2016. 2017.
2. Sri Lanka Bureau of Foreign Employment. Annual Statistical Report of Foreign Employment - 2021. Colombo; 2022.
3. ILO. Women and men migrant workers: Moving towards equal rights and opportunities [Internet]. 2001. Available from: http://www.ilo.org/wcmsp5/groups/public/@dgreports/@gender/documents/publication/wcms_101118.pdf
4. National STD/AIDS Control Programme Sri Lanka. Annual Report 2022- National STD/AIDS Control Programme, Sri Lanka [Internet]. 2022. Available from: www.aidscontrol.gov.lk
5. Abdulkader RS, Goswami K, Rai SK, Misra P, Kant S. HIV-Risk Behavior among the Male Migrant Factory Workers in a North Indian City. *Indian Journal of Community Medicine*. 2015 Apr 1;40(2):108–15.
6. El-Bassel N, Gilbert L, Shaw SA, Mergenova G, Terlikbayeva A, Primbetova S, et al. The silk road health project: How mobility and migration status influence HIV risks among male migrant workers in Central Asia. *PLoS One*. 2016;11(3):1–16.

7. Chan PL, Loo V, Mangalika P, Mehra J, Seneviratne R, Uhrig J. External Review of the National Response to STI and HIV in Sri Lanka. 2011.
8. Daniel WW. Biostatistics: A foundation for analysis in the health sciences (7th ed.). 7th ed. John Wiley & Sons.; 1999.
9. USAID. The DHS Program - DHS-Questionnaires [Internet]. [cited 2017 Dec 31]. Available from: <https://dhsprogram.com/What-We-Do/Survey-Types/DHS-Questionnaires.cfm>
10. NSACP. Integrated biological and behavioral surveillance survey among key populations at higher risk of HIV in Sri Lanka. 2015.
11. NSACP. Sri Lanka Behavioural Surveillance Survey. 2007.
12. Napper LE, Fisher DG, Reynolds GL. Development of the perceived risk of HIV scale. *AIDS Behav.* 2012;16(4):1075–83.
13. Mullany LC, Maung C, Beyrer C. HIV/AIDS knowledge, attitudes, and practices among Burmese migrant factory workers in Tak Province, Thailand. *AIDS Care.* 2003 Feb;15(1):63–70.
14. Ye P, Wu X, Keita H, Zhou W, Lin J, Luo Y, et al. Knowledge, Attitudes and Behaviours Related to HIV/AIDS among Female Migrant Workers in the Restaurant Industry in Guangzhou, China. *West Indian Medical Journal.* 2014 Jun 27;