

Behavioural interventions improve condom use and HIV testing uptake among female sex workers in China: A systematic review and meta-analysis

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Background

- A meta-analysis showed the risk of HIV among FSW is 50 times higher than that of the general female worldwide¹
- Chinese FSW
 - Officially illegal in China
 - low education level & HIV knowledge
- HIV intervention for Chinese FSW
 - Health Education Programs
 - Comprehensive Intervention Programs

¹Baral S et al. Lancet Infect Dis. 2012; 12:538-549.

Aim

- To examine the differences in the effectiveness of these intervention strategies.
 - Types of intervention
 - Health Education Programs
 - Comprehensive Intervention Programs
 - Duration of the intervention strategies
 - ≤ 12 months vs > 12 months
 - Number of follow-up sessions in the intervention
 - One vs more than one follow-ups

Methods

- Five databases were used
 - English: PubMed, Embase
 - Chinese: VIP Chinese Journal Database, China National Knowledge Infrastructure (CNKI), Wanfang Data
- Publication from Jan 2000 to Dec 2013
- MeSH and free-text terms:
 - ('human immunodeficiency virus' OR 'HIV' OR 'Acquired immune deficiency syndrome' OR 'AIDS') AND ('prevention' OR 'intervention' OR 'control') AND ('female sex workers' OR 'commercial sex workers' OR 'women who sell sex' OR 'FSW' or 'CSW') AND ('China' OR 'Chinese')

Selection criteria

- Studies
 - Randomised controlled trials
 - Non-randomised before-and-after studies
- Participants
 - Females who self-reported as sex workers and who were specifically targeted by intervention
- Interventions
 - Behavioural or social interventions that were designed to increase condom use, HIV testing uptake
 - Excluded pharmaceutical (e.g. PEP), cognitive (e.g. HIV knowledge) interventions

Outcome measures

- Changes in condom use
 - In the last sex act, always condom use in the past 1 month
 - Unspecified, regular partners, commercial clients
- HIV testing uptake
 - Any testing within the past 12 months

Results

- 569 records based on keyword searches
- 128 studies were included in the meta-analysis
 - 98 (77%) used comprehensive intervention program
 - 29 (23%) used health education program only
 - 1 used mixed methods
- No RCT

Results – condom use (past one month)

Outcomes	Effect of intervention Odds Ratio (95% CI)	Significance between interventions (p-value)
Always condom use with any partners	3.1 (2.0-4.7)***	-
Comprehensive Intervention Program	3.4 (2.1-5.4)***	0.595
Health Education Program	2.6 (1.1-6.3)***	
Intervention period ≤12 months	2.5 (1.5-4.2)***	0.083
Intervention period >12 months	5.3 (2.7-10.5)***	
Intervention with 1 follow-up	3.3 (2.0-5.6)***	0.517
Intervention with >1 follow-ups	2.5 (1.3-4.8)***	
Always condom use with regular partners	2.3 (1.7-3.1)***	-
Comprehensive Intervention Program	2.5 (1.67-3.6)***	0.139
Health Education Program	1.6 (1.13-2.4)**	
Intervention period ≤12 months	2.0 (1.40-2.9)***	0.326
Intervention period >12 months	2.8 (1.63-4.9)***	
Intervention with 1 follow-up	2.4 (1.7-3.4)***	0.293
Intervention with >1 follow-ups	1.6 (0.8-3.2)	
Always condom use with commercial clients	3.4 (2.8-4.0)***	-
Comprehensive Intervention Program	3.2 (2.6-3.9)***	0.212
Health Education Program	4.1 (3.0-5.6)***	
Intervention period ≤12 months	3.2 (2.5-4.0)***	0.492
Intervention period >12 months	3.6 (2.8-4.7)***	
Intervention with 1 follow-up	3.2 (2.7-3.8)***	0.355
Intervention with >1 follow-ups	4.3 (2.4-8.0)***	

Conclusions

- Summarised 128 behavioural intervention studies.
- Increased condom use is more likely in programs with multiple session interventions.
 - Allow space and time for establishing the necessary trust between FSW and health promotion educators
 - Reinforce messages for safer sex at each follow-up visit
 - Allow more time for the individuals to adopt a new behaviour

Results – condom use (last act)

Outcomes	Effect of intervention Odds Ratio (95% CI)	Significance between interventions (p-value)
Condom use with any partners	5.0 (3.4-7.2)***	-
Comprehensive Intervention Program	3.9 (2.6-5.9)***	0.162
Health Education Program	7.6 (3.3-17.3)***	
Intervention period ≤12 months	3.8 (2.4-6.1)***	0.146
Intervention period >12 months	6.9 (3.6-12.9)***	
Intervention with 1 follow-up	4.0 (2.8-5.7)***	0.023
Intervention with >1 follow-ups	20.3 (5.2-78.8)***	
Condom use with regular partners	2.3 (1.8-2.9)***	-
Comprehensive Intervention Program	2.5 (1.9-3.2)***	0.004
Health Education Program	1.3 (0.9-1.9)**	
Intervention period ≤12 months	2.3 (1.8-2.9)***	0.971
Intervention period >12 months	2.3 (1.5-3.6)***	
Intervention with 1 follow-up	2.1 (1.6-2.7)***	0.164
Intervention with >1 follow-ups	3.4 (1.8-6.5)***	
Condom use with commercial clients	3.5 (3.1-4.1)***	-
Comprehensive Intervention Program	3.5 (3.0-4.1)***	0.638
Health Education Program	3.8 (2.7-5.3)***	
Intervention period ≤12 months	3.4 (2.8-4.2)***	0.673
Intervention period >12 months	3.6 (3.0-4.4)***	
Intervention with 1 follow-up	3.2 (3.8-3.8)***	0.006
Intervention with >1 follow-ups	5.6 (4.0-7.8)***	

Results – HIV testing

Outcomes	Effect of intervention Odds Ratio (95% CI)	Significance between interventions (p-value)
Tested for HIV in the past 12 months	4.6 (2.9-7.4)***	-
Comprehensive Intervention Program	8.1 (4.0-16.7)***	0.015*
Health Education Program	2.7 (1.6-4.5)***	
Intervention period ≤12 months	3.8 (2.3-6.4)***	0.246
Intervention period >12 months	8.1 (2.5-26.1)***	
Intervention with 1 follow-up	3.9 (2.4-6.4)***	0.331
Intervention with >1 follow-ups	11.6 (1.4-97.6)***	

Conclusions

- Comprehensive intervention programs are more effective in increasing HIV testing uptakes than health education alone.
 - CIP not only promotes safe sex information, but also links FSW to HIV testing services
 - Regular HIV testing is important
- Intervention with extended duration of implementation (over 12 months) do not further improve condom use and HIV testing uptake.

Implications

- Condom use and HIV testing uptake were improved by the behavioural interventions
- High risk subgroups of FSW remain high priority for intervention
 - Poor working environment
 - Low education level
 - Inconsistent condom use
- Extend to male clients of FSW
- Effectiveness of intervention should focus on the content and delivery through multiple sessions.

Citation

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