



Translational behavioural medicine research: examples from South Africa

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Background

Example 1: Screening and brief intervention of alcohol problems in primary care

Example 2: HIV risk reduction counselling at post-test HIV counselling

Example 1:
**Evaluation of Alcohol Screening
and Brief Intervention in Routine
Practice of Primary Care Nurses in
Vhembe District, South Africa**

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Background

- The World Health Organization SBI program was developed to train medical providers to implement SBI in primary care settings
- To assess the implementation of the Alcohol Screening and Brief Intervention (SBI) strategy as part of a routine practice of nurses in 18 primary health care services in Vhembe district, South Africa.
- Our study is a part of the World Health Organization Collaborative Study on Brief Interventions for Hazardous and Harmful Alcohol Use in developing countries

Setting

- Primary health care providers including professional nurses, enrolled nurses, and assistant nurses from 18 primary health care clinics from Thulamela sub-district (Vhembe district) had been trained for two days on SBI.
- The trainings included nurses with different nursing ranks (professional, enrolled or assistant nurses), practice goals, levels of education, and length of experience.
- However, due to their similar experiences in the nursing field they had a similar goal in preventing alcohol abuse.
- Training of nurses in SBI for alcohol problems in primary health care is described in more detail elsewhere.
- The SBI implementation program was officially endorsed by the national department of health and the province and district health authorities.
- Nurses were provided with a certificate of attendance when all the trainings had been completed.
- When the trainings were completed, each clinic received at least two support visits by a trainer on SBI procedures during the first three months of implementation.

Nurses had agreed to implement a screening and brief alcohol intervention program in their clinics.

All nurses were requested to screen all consecutive adults (aged over 16 years) presenting to their clinic and follow an identical structured protocol for giving SBI.

Option 2:

The AN takes the vital signs of every patient and explains and administers the AUDIT screening questionnaire.

The questionnaire is scored using the following template.

If a patient is drinking sensibly then the AN or EN gives alcohol education to the patient.

AUDIT score = 0-7

If a patient is drinking hazardously then the AN or EN gives simple advice to the patient.

AUDIT score = 8-15

If a patient is drinking harmfully the he/she is given simple advice plus brief counseling by the EN or PN and continued monitoring.

AUDIT score = 16-19

If the patient is drinking harmfully and has become alcohol dependent then the EN or PN provides brief counseling plus referral to a specialist for diagnostic evaluation and treatment.

Results

Patient screening data were provided from 18 clinics.

Clinics had 101 professional nurses (83% of which had been trained in SBI), 47 enrolled nurses (85% of which had been trained in SBI), and 48 assistant nurses (73% of which had been trained in SBI).

Nurses implemented SBI with 2670 patients during a 6-month implementation period in the 18 clinics.

Different SBI components, screening, alcohol education, simple advice, brief counseling, and brief counseling and referral were done by professional nurses (75%) and enrolled nurses (25%)

Evaluation summary ratings of screening and brief intervention in primary care

	clinics with good implementation (n=9)	clinics with poor implementation (n=9)	Fisher's Exact test
Structure and organization of clinics:			
all nurses in the clinic trained in SBI	8	3	.050
feedback provided	4	2	.620
nurse clinical workload <35 patients a day	7	2	.057
competing priorities (eg, voluntary HIV counseling and testing, tuberculosis, antenatal care, Papanicolaou smear examinations)	1	5	.131
Teamwork	7	3	.153
tension in the clinic	2	4	.620
Perceptions of innovation:			
early adopters (first 2 mo)	6	0	.009
perceived benefit from SBI	9	8	1.000
compatibility with beliefs, values, past history and current needs	6	4	.637
low perceived complexity of innovation	8	4	.131
trialability and observability	4	3	1.000

Discussion

Factors influencing the implementation of SBI as routine in primary care in this study included:

- the percentage of nurses trained in SBI,
- support visits,
- clinical workload,
- competing priorities,
- team work,
- early adoption,
- compatibility beliefs,
- perceived complexity of innovation,
- trialability, and observability of SBI

In order to improve on SBI implementation as routine practice, more attention should be paid to the following factors:

- 1) training modalities (greater number of nurses trained in SBI in each clinic, the provision of support visits, trialability and observability of SBI);
- 2) clinic organization (low clinical workload, fewer competing priorities, and better team work); and
- 3) attitudinal changes (early adoption, better compatibility of intervention with beliefs, and less perceived complexity of innovation).

**Example 2: Lay counsellor-based risk reduction
intervention with HIV positive diagnosed
patients at public HIV counselling and testing
sites in Mpumalanga, South Africa**

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Objectives

- Assess an enhanced HIV risk reduction intervention in the context of VCT and in particular conducted by lay counsellors.
- Pre-post implementation evaluation with the Options Project intervention with PLHIV (Cornman et al., 2007) in an HIV counselling and testing site setting in South Africa, the fidelity with which the intervention could be implemented, and the potential effectiveness of the intervention in reducing risky sexual behaviour over a four months period

Method

- Sample: Patients (n=488) receiving services at 13 public HIV counselling and testing (HCT) clinics were enrolled after HIV post-test counselling
- Participants received a three session (each 20-30 minutes) theory-based motivational-skills building risk reduction counselling intervention

Intervention

- lay counsellor-delivered intervention that employs motivational interviewing techniques to
- 1) assist HIV-positive patients to identify their specific barriers to safer sex,
- 2) assist patients to develop strategies for overcoming these barriers including alcohol use, and
- 3) empower patients to enact these risk-reduction strategies.

Information, Motivation, and Behavioural Skills among participants at baseline and 4 months follow-up following intervention

	Baseline	4-months follow-up	Paired samples t-test value	DF	P
	M (SD)	M (SD)			
HIV and AIDS knowledge (26 items) ($\alpha=.87^a$; $.79^b$) “One session” (n=117) “Two sessions” (n=155) “Three sessions” (n=88)	18.2 (5.8)	20.8 (4.1) 20.5 (4.3) 20.8 (4.3) 21.3 (2.7) ^c	-7.90	337	.000
Behavioural intentions (7 items) ($\alpha=.85$; $.87$) “One session” “Two sessions” “Three sessions”	31.7 (8.7)	33.6 (8.2) 33.7 (9.6) 33.0 (7.4) 34.9 (6.1) ^c	-3.95	351	.000
Risk reduction skills (14 items) ($\alpha=.91$; $.85$) “One session” “Two sessions” “Three sessions”	8.8 (4.4)	9.7 (4.6) 10.2 (4.9) 9.0 (4.7) 10.2 (4.0) ^c	-3.09	331	.002
Risk reduction self-efficacy (9 items) ($\alpha=.94$; $.95$) “One session” “Two sessions” “Three sessions”	64.4 (25.4)	71.8 (24.3) 68.6 (26.8) 72.7 (23.3) 77.1 (19.9) ^c	-5.33	352	.000

Results:

Sexual risk and risk reduction outcomes among participants at baseline and 4 months follow-up following intervention

	Baseline	4-months follow-up			P
	N (%)	N (%)	McNemar Chi-square test		
			Contingency coefficient		
≥2 sex partners	75 (20.7)	18 (8.2)	.32		.000
Never used a condom with partner 1 in the past 3 months	206 (54.8)	35 (16.4)	.23		.000
No condom at last sex with partner 1	204 (52.6)	52 (23.6)	.22		.000
Use of alcohol or drugs before or while having sex the last time with partner 1	65 (16.8)	8 (3.7)	.29		.000
Partner used alcohol or drugs before or while having sex the last time with partner 1	83 (21.9)	31 (14.6)	.29		.020
Given someone money or drugs to have sex with you in the past 3 months	28 (7.9)	5 (1.4)	.05		.000
Had sex with someone to get money and/or drugs in the past 3 months	29 (8.2)	7 (2.0)	.10		.000
Had sex with someone to get food or a place to stay in the past 3 months	39 (11.0)	8 (2.3)	.10		.000
Sexually abstinent in past 3 months	119 (25.5)	125 (36.4)	.13		.017
Hazardous or harmful drinking	77 (15.8)	25 (7.0)	.32		.000
	M (SD)	M (SD)	Paired samples t-test value	Df	P
Total AUDIT* score	3.1 (6.9)	1.2 (4.3)	5.69	358	.000

Fidelity and acceptability analysis

- Assessment of intervention feasibility based on a review of
- patient monitoring forms indicated that the intervention was
- delivered in 360 of 366 (98.4%) HIV-infected referred patients, with
- a mean of 2.3 intervention sessions per patient (one session = 117,
- 32.5%; two sessions = 155, 43.1%; three sessions = 88, 24.4%) over a 2-months period.

Exit interviews with 10 lay counsellors

- benefited from the intervention
- the intervention was easy to implement
- discouraged by the fact that the intervention had too many follow-up sessions and clients did not always come back for these sessions.
- Incentive (R = 10; US\$ = 1.2 for each completed counselling session)
- Monthly support visits.

Conclusion-1

- First to demonstrate that a brief lay counsellor-delivered HIV risk reduction intervention for PLHIV immediately after diagnosis can be implemented into routine care,
- Is acceptable to HIV-infected patients, and
- May be effective in reducing HIV risk behaviour (multiple sexual partners, unprotected sex, and alcohol or drug use in the context of sex) among HIV-infected patients

Conclusion-2

- Training of the lay counsellors in the Options intervention took a relatively short time (3 days) and can be readily integrated into ongoing lay counsellor trainings of the Department of Health,
- Positive results of this study suggest that this intervention may be a promising in reducing HIV risk behaviour among PLHIV immediately after diagnosis.
- A two session Options intervention is recommended for more feasible implementation.

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