

## **Training primary care nurses to conduct alcohol screening and brief interventions in the Limpopo Province**

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### **Abstract**

Although progress has been made in developing a scientific basis for alcohol screening and brief intervention (SBI), training packages are necessary for its widespread dissemination in primary care settings in developing societies. This paper evaluates a training package developed the World Health Organisation, the SBI programme. The training participants consisted of 121 nurses from one rural site (29 clinics in Vhembe District) and one urban site (3 clinics and 6 mobile clinics in Polokwane/Seshego). Although the training effects were at times moderate and all changes were in a direction more conducive to implementing SBI. Health care providers significantly increased in knowledge, confidence in SBI and higher self-efficacy in implementing SBI at follow-up after 9 months after receiving the training. When delivered in the context of a comprehensive SBI implementation programme, this training is effective in changing providers' knowledge, attitudes, and practice of SBI for at-risk drinking.

Key words: alcohol, screening, brief intervention, at-risk drinking, problem drinking, training, South Africa

## **Introduction**

Adult per capita consumption of absolute alcohol in South Africa is between 9 and 10 litres per year, which places the country among the higher alcohol consuming nations. Since 1993 the level of per capita adult absolute alcohol consumption appears to be rising, after a decrease in 1990 and 1991 (Myers & Parry 2002). Based on the findings of the Department of Health's South African Demographic and Health Survey (SADHS) conducted in 1998 by the Medical Research Council (1998), just under half of men (45%) and one-fifth of women (17%) 15 years and older report that they currently consume alcohol.

Alcohol consumption in amounts that significantly increase the chances of health problems (i.e., at-risk drinking) is common among patients presenting to primary care, and imposes a significant economic burden on the health care system (Fleming et al., 2000). Peltzer (1999) found that in primary care in a rural clinic in Limpopo Province that past 6 months alcohol use among men was 72.5% and among women 9%, and of those 31% of the men and 9% of the women engaged in hazardous drinking. From this primary care sample of current substance users 61% of the men indicated that their drinking or drug use had caused a family problem, 58% needed to drink or use drugs more and more for effect, 33% of men and 7% of women felt they had a drinking or drug problem now and 15% had a family member with a drinking or drug problem. Only a few had sought help for their substance abuse problem (men: 10%; women: 2%) from the following sources: friend, pastor, relative, traditional/faith healer, and nurse. None had ever undergone treatment for their substance abuse problem.

Primary health care is the first point of contact of individuals, families and communities in most countries' health systems (Kaner et al., 2001). Primary care is therefore a particularly valuable point of delivery for community-based interventions for excessive alcohol consumption due both to its universality and also to the large proportion of the population who access it each year (Department of Health, 2001). Moreover, problem drinkers present to primary health care twice as often as other patients and constitute approximately 20% of patients on practice lists (Anderson, 1993).

Screening procedures have been developed to identify at-risk drinkers (e.g., Babor, Higgins-Biddle, Saunders, & Monteiro, 2001), and significant reductions in

drinking and related risks can be achieved by brief interventions (e.g., Moyer, Finney, Swearingen, & Vergun, 2001). Screening can also identify persons likely to be alcohol dependent, and referral for diagnostic evaluation may encourage patients to seek treatments that have been shown to be effective.

The White Paper for Transformation of the Health System in South Africa (1997) and the National Drug Master Plan (1999) in South Africa have prioritised prevention and management of alcohol abuse and the integration of substance abuse in PHC. The Department of Health (2001) has included in the service description of clinics the prevention and management of substance abuse. Standards for PHC include health-learning materials on alcohol in local languages and competence of health staff in identifying alcohol abuse and provide basic counselling for behaviour changes and referral to NGOs specializing in substance abuse.

This paper reports on the evaluation of a primary care training programme of Screening and Brief Intervention (SBI), a comprehensive approach to alcohol screening and brief intervention. It describes the effects of the programme on trainees' knowledge and attitudes, and the subsequent practice of SBI in routine clinical practice.

Introducing new screening and prevention activities into primary care practices presents significant logistical, attitudinal, and behavioural challenges. Many nurses feel inadequately trained when faced with patients who have alcohol-related problems (Church & Babor, 1995; Rendall-Mkosi, Siegfried, & Allen, 2003). Barriers to adequate coverage of alcohol-related problems in both nursing schools and continuing professional education include traditional attitudes about the moral culpability of chronic alcoholics, confusion as to whether problem drinking is a medical or psychiatric concern, lack of faculty role models, lack of training materials, and role ambiguity regarding who is responsible for screening and intervention (Bendtsen & Akerlind, 1999). Another factor could be the relative lack of awareness that SBI leads to significant reductions in drinking and risk.

Research on medical education has shown that training can be effective in improving health providers' knowledge and skills in addressing alcohol issues (Ockene, Wheeler, Adams, Hurley, & Hebert, 1997) but changes in knowledge may be easier to produce than changes in attitudes and behaviour (El-Geubaly, Toews, Lockyer, Armstrong, & Hodgins, 2000). Kaner et al. (2001) found that greater exposure to alcohol-related continuing medical education appears to have resulted in

better diagnosis and more appropriate management of alcohol-related problems by GPs. A recent review of the components and outcomes of medical education in substance-related disorders concluded that the selection of a combined didactic and interactive educational strategy may be the most cost-effective learning strategy, but there is little empirical evidence to support this approach (El-Geubaly et al., 2000).

Although some progress has been made in the development and dissemination of SBI in industrial countries (Babor & Higgins-Biddle, 2000; Kaner et al., 2001 ), this study evaluates the dissemination of the development of successful training packages that include programme implementation procedures in a developing country. The WHO SBI programme was developed to train medical providers to implement SBI in primary care settings. In this article we evaluate the effects of this programme on nurses in South Africa, as part of a World Health Organization Collaborative Study on Brief Interventions for Hazardous and Harmful Alcohol Use in developing countries (Monteiro & Gomel, 1998).

### *Curriculum and Training*

It takes a practical, systems approach, aiming to facilitate the implementation of SBI in clinic operations rather than merely educating staff. The training curriculum contains modules addressing practical issues deemed essential to implementing the programme.

For early identification of alcohol problems in primary care the Alcohol Use Disorders Identification Test (AUDIT) (Babor et al. 2001a) and for the brief intervention the WHO brief intervention package for hazardous and harmful drinking (Babor et al. 2001b) were used. Both were adapted to the South African context, e.g. in terms of standard unit of alcoholic drink and drinking limits. The AUDIT was translated and back translated according to scientific standard procedures into four of the major languages in the project area. The self-help booklet for patients and a handout on “cutting back” showing the drinking limits and health effects of risky alcohol consumption were also made available in Tsonga, Northern Sotho, Venda, and Afrikaans.

The AUDIT manual explains the purpose of screening for alcohol problems in primary care, the context of alcohol screening, the development and validation of the AUDIT, administration guidelines, scoring and interpretation.

The Brief Intervention manual defines concepts and terms, roles and responsibilities of Primary Health Care, SBI: a risk management and case finding approach, alcohol education for low-risk drinkers, abstainers and others, simple advice for risk zone II drinkers, brief counselling for risk zone III drinkers, referral for risk zone IV drinkers with probable alcohol dependence, patient education, self-help booklet and training sources.

Critical administrative activities included administration and scoring of the screening instruments, assuring availability of patient brochures, sequencing of interventions with treatment of presenting health problems, the essential elements of an intervention, and the management of SBI records.

The training at the sites was delivered in six hours.

A nurse and psychologist trainer and the project site consultant delivered the training. As many practice staff as possible were invited to the training, including physicians, professional nurses, and assistant nurses. Follow-up supervisory and support visits were also provided.

## **Methods**

### *Research Design*

The study, conducted between 2003 and 2004, involved the implementation and evaluation of the WHO Screening and Brief Intervention (SBI) programme in one rural and one urban site in Limpopo Province.

The rural site is in one of four municipalities of Vhembe district (which has a population of 1 097 621), the Makhado local municipality with a population of 497 077. A section of the Makhado local municipality was chosen, the Elim area with one hospital and 29 primary health care centres, that is 2 health centres and 27 clinics. It is predominantly occupied by African speaking Tsivenda and Xitsonga, as well as few Afrikaans speaking white farmers living farming units within the area.

The urban site is in one of five municipalities (Polokwane) in the Capricorn district. The latest census reported a population of 832 474 for the District. One portion of the Polokwane municipality with a population figure of 424 976 has been selected to pilot the SBI project, Focusing mainly on two major urban areas, that is Polokwane city and Seshego Township with the two public hospitals, one health

center Training was done with the nurses from all clinics, the health center and the Seshego hospital, again with the multidisciplinary team of Polokwane/Mankweng complex) 3 clinics and 6 mobile clinics. The area comprise of Northern Sotho speaking Africans who are in the majority, followed by Afrikaans and English speaking Whites, Coloureds and Indians.

### *Sample and procedure*

A total of 14 trainings of six hours duration each were conducted.

The training participants consisted of 121 nurses, 86 professional nurses (chief, senior and professional nurses) and 29 enrolled or assistant nurses. 82 were trained from 29 clinics in Vhembe District and 45 from 3 clinics and 6 mobile clinics in Polokwane/Seshego. This was 38.7 % of all the nurses of the 35 clinics, what is the total number of nurses (314), both professional and assistant/enrolled? In each clinic at least two nurses were trained.

Most trainee nurses were women (90.9%) and 8.3% were men. Their mean age was 39.8 years (SD=8.6), with an age range of 23 to 62 years, and their mean years of professional practice was 14.3 years (SD=9.3).

The evaluation of the effects of training and programme implementation were measured prior and by the same health care providers 9 months after the training, with a self-administered questionnaire. Quality assurance of training was conducted by tape-recording of 40 nurses-patient SBI interactions. Furthermore, a brief patient exit interview was used with 100 consecutive patients (18 to 65 years) from different health facilities leaving PHC premises after having seen a health professional for any reason. Informed consent was taken from participants, and ethics approval was obtained from the University of the North Ethics Committee and the Provincial Department of Health and Welfare.

### Measures

*Knowledge on alcohol use and problems* (8 items). For example, trainees were asked to define moderate drinking in terms of the South African upper limit of number of drinks per day for men. Pre- and post-training knowledge items were scored according to the number of correct responses.

Further, a 54-item questionnaire informed by the alcohol health services literature including Project NEADA (Church & Babor, 1995) and the World Health Organization Study of General Practitioners (Monteiro & Gomel, 1998) measured a variety of other factors that might affect a clinician's ability to provide SBI to patients, as follows:

*Confidence in screening of alcohol use* (5 items), for example: "Asking questions to collect information about a patient's risk for alcohol related problems." (response options from 1=no confidence to 4=quite a lot of confidence),

*Confidence in Brief intervention with alcohol problems* (5 items), for example: "Stating medical concerns about a patient's drinking pattern and related health risks." (response options from 1=no confidence to 4=quite a lot of confidence),

*Perceived obstacles to screening alcohol use* (15 items), for example: "I feel it is an invasion of privacy to ask patients questions about their alcohol consumption." (response options from 1=strongly agree to 5=strongly disagree),

*Perceived obstacles to brief intervention with alcohol problems* (19 items), for example: "In general, health care providers cannot do much to get patients to reduce their drinking." (response options from 1=strongly agree to 5=strongly disagree);

*Self-efficacy in SBI* (5 items), for example: "I feel I can appropriately advise patients about drinking and its effects." (response options from 1=strongly agree to 5=strongly disagree, reverse scored)

*Expectations of SBI benefit* (5 items), for example: "Stating my medical concerns about a patient's drinking habits and related health risks will result in their cutting back on their drinking." (response options from 1=strongly agree to 5=strongly disagree, reverse scored).

Internal consistency of all scales used here were above .70 prior to and at nine months after the training in this sample.

Further, questions were asked about socio-demographic and professional background, screening and brief intervention practices, and barriers and support in implementing SBI at follow-up.

#### *Data analysis*

Group means of the knowledge, confidence, perceived obstacles, self-efficacy and benefits scales were compared across time (before and nine months after training) using a Paired Samples T-Test.

## Results

Table 1 shows the average scores for the measures of knowledge, confidence, perceived obstacles, self-efficacy and expectations before and after nine months of the training exercise. Health care providers significantly increased in knowledge, confidence in screening and brief intervention and higher self-efficacy in implementing SBI at follow-up after 9 months after receiving the training. Participants also decreased levels of perceived obstacles for implementing SBI, and raised their level of expectations relative to their respective baseline scores, though not at significant levels.

**Table 1.** Means (standard deviation) of pre- and post training scale scores for knowledge, confidence, perceived obstacles, self-efficacy and expectations/benefits

Scale	Pre-training (N=121)	Post-training (N=81)	t
Objective knowledge (range 0=8)	3.9 (1.5)	4.8 (1.9)	3.22**
Confidence in screening (range 1-4)	2.0 (0.4)	2.9 (0.8)	3.14**
Confidence in brief intervention (range 1-4)	2.7 (1.2)	3.2 (0.5)	2.61*
Perceived obstacles to screening (range 1-5)	3.4 (0.6)	3.2 (0.5)	-1.63
Perceived obstacles to brief intervention (range 1-5)	3.3 (0.5)	3.1 (0.4)	-1.88
Self-efficacy in SBI (range 1-5) 1	3.0 (0.5)	3.5 (0.5)	2.88**
Expectations of SBI benefit (range 1-5) 4	4.1 (0.9)	4.3 (0.7)	1.54

\*\*p<.01, \*p<.05

### *Uptake of SBI*

At follow-up 81 nurses were surveyed regarding the implementation of SBI in their clinics. All indicated to have taken-up SBI. Most (82%) had referred a patient with probable alcohol dependence to a hospital, though 18 percent indicated that they did not know where to refer to.

Nurses were asked at baseline and follow-up how many patients they had managed for alcohol problems in the past nine months. At follow-up significantly more cases had been managed as compared to prior to the training (see Table 2).

Table 2: In the past nine months adult patients managed specifically for heavy drinking or alcohol-related problems

No of patients	Pre-training (%)	Follow-up (%)
None	55.0	29.3
1-5	26.2	39.8
6-11	6.7	18.0
12-24	4.5	4.3
25-49	4.3	4.3
50 or more	3.2	4.1

#### *Implementation barriers and support*

Barriers to screening and brief intervention were reported as mainly patient-caused (55%) (disinterested/refused) and shortage of staff/work overload (35%), and some (10%) mentioned that patients at risk do not come to the clinic.

Regarding barriers to referral 63% of the nurses noted that they “don’t use them/like them” and lack of adequate services for the treatment of alcoholic patients (24%). Most (74%) nurses screen patients during consultation, when time (21%) and after consultation (5%). Most (71%) record the screening results on provided logsheets, 14% in the record book, and 5% on the AUDIT sheet.

The most supporting elements for helping the programme succeed were cooperation from colleagues (31%), support from facilitators and supervisors (29%), and training (19%). The most hindering elements for the programme’s success were rated as patient-caused (withhold/give wrong information/refuse) (54%) and work overload (46%). One-thirds indicated that the programme works okay, one-thirds that either only specific staff or all staff should be trained and one-thirds that it should be widely advertised in the community.

#### **Discussion**

The results of this study demonstrate that, when delivered in the context of implementing a comprehensive SBI programme, even relatively short training of health care providers in screening and brief intervention techniques can result in gains in provider knowledge, self-efficacy, and expectations about the value of SBI.

There was also a decrease, though not significantly, in perceived obstacles to performing brief interventions with patients. More importantly, these short-term changes in attitudes and confidence were associated with an increase in provider behaviour of increased implementation of SBI. Perhaps booster training sessions and more supervisory support visits could have strengthened the SBI programme that could also have addressed the expressed barriers in the implementation of SBI by the nurses. A number of clinics are terribly short staffed so that time is limited for SBI. Andersen et al. (2003) found among GPs that those who received more education on alcohol, who perceived their working environment as supportive, who expressed higher role security in working with alcohol problems and who reported greater therapeutic commitment to working with alcohol problems were more likely to manage patients with alcohol-related harm.

For practicing health care providers, the various belief changes for the nurses could be attributed in part to the opportunities to implement SBI in their clinical practices after the training.

The findings provide support for the Theory of Planned Behaviour (Ajzen, 1985), which predicts that health care practitioners will voluntarily practice what they perceive as efficacious and easy to perform. To the extent that training increases knowledge of effective practices, enhances confidence in performing them, and decreases perceived obstacles to SBI, the training program should produce positive changes in practice behaviour. The results are consistent with other studies of provider behaviour which show that health care providers trained in a brief, provider-delivered alcohol intervention will counsel their at-risk patients when cued to do so and when supported by a primary care office system. Our results also replicate previous findings that changes in provider behaviour are associated with parallel changes in providers' attitudes, knowledge and counselling skills following a group training programme (Aalto, Pekuri, & Seppä, 2001; Babor, Higgins-Biddle, Higgins, Gassman, & Gould, in print).

Although the results suggest that training in alcohol SBI results in positive changes in attitudes, knowledge, self-efficacy and clinical behaviour, the findings are subject to the limitations of a pre-post research design that relies primarily on self-report information providers. There was some attrition between the training and follow-up questionnaires, which may have resulted in a biased selection of nurses who were more responsive to the training.

Studies have shown the efficacy and cost effectiveness of SBI in primary care, but little progress has been made in disseminating and implementing this clinical preventive service (Babor et al., in print). The results of this study indicate that the training of nurses is feasible, and it is effective in preparing health care providers to implement an SBI programme in South Africa. There are, however, other pre-requisites that must be met before SBI will find widespread application in primary care practice. Standards of practice by national accrediting and professional organizations are needed. Purchasers and payers must encourage this preventative health service and provide financial incentives to providers. Linkages to community-based organizations and hospitals must be developed to support referral for treatment in an integrated service delivery system. Communications and social marketing must enlist patients in the search for better preventative health services. And finally, research will be required to develop more efficient ways to train present and future nurses in the implementation of SBI in ways that assure improved performance in practice in South Africa.

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