Implementing the Alcohol, Smoking, Substance Involvement Screening Test and linked brief intervention service in primary care in Thailand

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ABSTRACT

Background This paper reports findings on the implementation, acceptability and uptake of the screening and brief intervention programme based on the Alcohol, Smoking and Substance Involvement Screening Test (ASSIST) to help decrease substance misuse in primary care in Thailand.

Methods Action research involving selection of suitable study areas; obtaining support for its introduction and corporation at national and local levels; training and monitoring of healthcare providers; delivery of the ASSIST-BI (brief intervention) procedure and assessments of acceptability and uptake of the procedure by patients and staff.

Results Between October 2011 and October 2012, 5931 patients (2.5% of all patients attending primary care units) were screened with the ASSIST. Of these, 29.6 and 3.4% were in the moderate- and high-risk groups, respectively, and were offered BI or other treatment. The most popular substances used were tobacco and alcohol. Less than 1% screened positively for illicit substances.

Conclusion The ASSIST detected many substance users capable of benefiting from intervention. The programme was well received by patients and staff. The development of the project from conception to inclusion in Thailand’s national public health strategy is described and suggested as a model for introducing similar procedures into developing countries.

Keywords brief intervention, developing countries, screening, substance misuse, Thailand

Introduction

To help reduce the worldwide escalating problem of substance misuse, the World Health Organization (WHO) recommends the Alcohol, Smoking and Substance Involvement Screening Test (ASSIST) followed by brief intervention (BI).1–3 The screening component allows for scoring of pattern of problems related to all legal and illegal substance use, and has cut-off points that suggest harmful use and dependence. The principal aims of the procedure are to identify substance misuse at an early stage and offer help to people with this problem. This comes in the form of the intervention component—a brief, easy-to-administer procedure based on motivational therapeutic principles, for which there is increasing evidence of effectiveness.4–7

Screening and brief intervention (SBI) has been used in various healthcare settings, e.g. primary care, emergency departments, maternity and adolescent units, and occupational health care.8–12 The WHO study of the effectiveness of ASSIST-linked BI in Australia, Brazil, India and the USA

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demonstrated that BI significantly reduced scores on all measures, indicating that ASSIST-BI was effective in the short term, and the effect generalized across countries. In a 6-month follow-up study of SBI, there were 39% and 68% reductions in hazardous drinking and illicit drug use, respectively. Improvements were reported in general and mental health, employment and housing and decreased criminal activity.

The ASSIST-BI programme is not an answer in itself to the huge problem of substance misuse but an important adjunct to other public health measures, such as education, law enforcement and harm reduction.

In Thailand, as in other countries, there has been a worrying increase in substance misuse during past decades. In February 2011 we therefore launched a project to study the implementation of ASSIST-BI in four districts. It was designed to increase the reach of SBI in primary care, provide support for those who could benefit and increase detection and referral for further treatment of dependent users. We report here our findings of research into the acceptability and uptake of the procedure, patient satisfaction and difficulties in implementing the programme. We discuss our findings in relation to broader economic and manpower difficulties in developing countries. Preliminary reports of a related clinical trial and the procedure have been reported elsewhere.

**Method**

**ASSIST**

This test consists of eight questions concerning the use of tobacco, alcohol and illicit substances. It takes a health worker 3–15 min to administer. Patients are asked if they have ever used the substances specified and, if so, the frequency of use during the past 3 months; whether they have a strong desire or urge to use the substance; the frequency of any health or social problems they have and whether the substance has interfered with their responsibilities. They are also asked whether anyone has expressed concern about use of any substance; whether they have tried to decrease or discontinue use and whether they have ever injected any substance.

From the answers to these questions scores are obtained which categorize people into ‘low-risk’ (score for alcohol 0–10, other substances 0–3); ‘moderate-risk’ (score for alcohol 11–26, other substances 4–26) and ‘high-risk’ (27+) levels. People considered at low risk were given general advice, while those at high risk were referred to a specialized substance misuse service. Individuals in the moderate-risk category were offered BI and given a modified version of the WHO self-help book for use at home.

The original WHO English version of the ASSIST was translated into Thai. As two commonly misused substances in Thailand are krathom (mitragynine speciosa Kroth, a plant containing alkaloids with narcotic properties) and ‘krathom cocktail’ made by boiling krathom leaves with a benzodiazepine, cough syrup and an anti-histamine in a cola drink, they were added to the list of substances in the ASSIST (krathom leaves are mostly chewed by middle-aged and elderly people, krathom cocktail drunk by teenagers). The Thai translation was then back translated into English by a bilingual Thai researcher who had not seen the original English version. This back translation was verified by an English-speaking drug/alcohol specialist. The ASSIST manual, feedback report card, BI manual and self-help book were similarly translated from English.

**Brief intervention**

ASSIST-linked BI follows a 10-step, easy-to-follow procedure which includes asking the respondent if he/she is interested in seeing his/her scores; explaining their relevance; inviting the respondent to weigh the positive against the negative aspects of using substances and providing the take-home material. Throughout the procedure the health worker adopts a non-judgemental, non-authoritarian approach and it is made clear that all decisions made will be entirely those of the respondent.

**Preparing the groundwork**

As the project involved many institutions diverting resources from existing practices, we sought and obtained in a series of meetings support nationally from the Thai Government’s Ministry of Public Health and National Health Security Office; the Royal College of Family Medicine Doctors; Royal College of Psychiatrists; Public Health Officers’ Association and Nursing Council.

Districts in which the study would best be undertaken were then selected. These were areas where there was a known drug problem, that had adequate transport and that had the potential for expansion if the study yielded beneficial results. The districts of Choompae and Prayuen, Khon Kaen Province (North-East), and Chana and Kuan Niang Districts, Songkhla Province (South) met these criteria and were chosen. In each area, the study was undertaken in district hospital and networking sub-district primary care units (PCUs).

The next step was to gain support for the project and agreement to participate from local staff at all levels of seniority from key decision-makers (hospital and PCU directors, chief nurses, provincial and district heads of public health) to the healthcare workers who would carry out the SBI. During
the 6 months prior to launching the research, we held regular meetings in which the purpose of the study, procedure, cost-implications and use of resources were explained. It was accepted that the potential benefits justified the costs and re-allocation of resources, and agreement was obtained.

Each hospital director identified a key person (usually the chief of nursing) and a leadership team comprising the head nurses of the outpatient clinic and mental health and substance abuse clinic, administrative leader and PCU director. The team was given the responsibilities of programme management, planning the care-map, and coaching and supervising those who administered ASSIST-BI.

**Training and monitoring**

Resources were provided to help hospitals implement the programme: ASSIST questionnaires, feedback report cards, self-help books, identifier stickers and care maps. A ‘train-the-trainer’ model was developed; in this staff were trained to cascade training to other local practitioners. This was followed by workshops on psychoactive drugs and their misuse; the role of primary care staff in early recognition of substance misuse and intervention; and the principles and practice of the ASSIST-BI procedure. Demonstrations, small-group discussions and role-play were included. Pre- and post-test knowledge was assessed in each workshop.

**Subjects and screening**

At each site, universal screening with the ASSIST was initially advocated for patients aged 18–65 years attending the units. However, after a month or so it became clear that this was impracticable as the care workers were overburdened with other commitments, including screening for physical illnesses, health promotion and nursing care. We therefore changed our strategy to asking all patients a single pre-screen question—whether they used any substance. Only those who answered in the affirmative (and patients otherwise suspected of misusing substances) were then screened with the ASSIST.

**Evaluation**

Qualitative and quantitative evaluations of the extent to which the project was adopted by the primary care administration and the screening-intervention procedure accepted by patients were undertaken between May and August 2012 (the second year of the launch). In-depth interviews were held with seven executive officers (including hospital directors, chief nurses and public health administrators), 6 health workers who provided the ASSIST-BI and 23 patients and relatives, 8 of whom had had BI. Four focus-group discussions were held with 38 health workers, who were carrying out the procedure, and 43 members of staff and 75 patients completed self-administered questionnaires asking their opinion on the service. All respondents agreed to participate in the evaluations.

The interviews were aided by pre-determined questions addressing reflections on the service; the process of introducing it; any problems that arose during implementation and monitoring; and degree of satisfaction with the project. Patients were asked similar questions concerning their attitude towards the procedure. The quantitative data were derived from a series of 14 statements concerning SBI to which respondents were asked if they were in ‘strong’, ‘moderate’ or ‘less’ agreement, or ‘unsure’. The uptake of the service was deemed successful if the hospital administrator and staff accepted it in their hospitals; it was incorporated into their routine service and it continued after our study ended.

**Ethics**

Ethical approval for the study was obtained from the Ethics Committee of the Faculty of Medicine, Prince of Songkla University. All patients and health workers were fully informed of the purpose of the study and the procedure, and gave their consent to participate. They were reassured that information disclosed would be treated in strict confidence.

**Results**

**Uptake of procedure**

Between October 2011 and October 2012, 5931—around 2.5% (range per unit 0.7%–5.1%) of all 237 240 patients who attended PCUs in the study districts were screened with the ASSIST. These included patients screened initially with the ASSIST and those who first answered positively to the pre-screen question. Of the 5931 patients, 3971 (70.0%) were rated at ‘low risk’ of substance-related problems, 1757 (29.6%) at ‘moderate risk’ and 203 (3.4%) at ‘high risk’. ASSIST-linked BI was given to 1627 patients, mostly those at moderate-risk, though some at high-risk, hoping that intervention would encourage acceptance of more intensive treatment. Some low-risk patients, who were suspected of a more serious problem than ASSIST scores suggested, were also given BI. Others were referred to alternative psychosocial services, including smoking cessation and substance abuse/mental health clinics. On average, two to three patients were screened per day in each unit.

**Factors influencing uptake**

All district hospitals and networking PCUs introduced the procedure into practice within a year of the launch of the study and all patients were screened either with the ASSIST alone or the
pre-screen question. Success was dependent on strong support from hospital leaders, with a declaration that the service would be adopted as routine practice; a clear job description; good selection of staff and the incentive of a small financial contribution to the hospital to support academic activities. There was also the expectation that, if the procedure were adopted nationally, the hospital would get additional money per patient tested and provided with intervention—as is currently given in Thailand for smoking-cessation programmes. The number of patients screened was dependent on enthusiasm of staff and patient workload, and thus time available to accommodate the procedure, as well as the aforementioned influences.

Each management team was encouraged to adapt the process of intervention to the specific conditions of the setting. An important aim was to institutionalize this work so that the service would be sustained regardless of changes in administrative term. Healthcare workers were trained to provide intervention in a way that was mutually and optimally suited to patients’ needs and staff’s experience and other responsibilities.

Obstacles included lack of time to establish the organizational structures (so that some PCUs failed to participate even after training staff for the purpose), competing priorities and lack of adequately trained staff. In some settings, the hospital director agreed to implement the service but no one was assigned to assume responsibility for it.

### Table 1 Substances used by patients offered brief intervention.

<table>
<thead>
<tr>
<th>Province</th>
<th>Total</th>
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</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>Songkhla</td>
<td></td>
</tr>
<tr>
<td>District</td>
<td></td>
</tr>
<tr>
<td>Kuan Niang</td>
<td>Chana</td>
</tr>
<tr>
<td>No. (%) patients screened</td>
<td>2374 (4.3%)</td>
</tr>
<tr>
<td>No. received BI</td>
<td>825</td>
</tr>
<tr>
<td>Tobacco</td>
<td>456 (55.3%)</td>
</tr>
<tr>
<td>Alcohol</td>
<td>348 (42.2%)</td>
</tr>
<tr>
<td>Cannabis</td>
<td>7 (0.8%)</td>
</tr>
<tr>
<td>ATSs</td>
<td>2 (0.2%)</td>
</tr>
<tr>
<td>Inhalants</td>
<td>0</td>
</tr>
<tr>
<td>Krathom</td>
<td>10 (1.2%)</td>
</tr>
<tr>
<td>Opioids</td>
<td>1 (0.1%)</td>
</tr>
<tr>
<td>Sedatives</td>
<td>1 (0.1%)</td>
</tr>
<tr>
<td>Cocaine</td>
<td>0</td>
</tr>
</tbody>
</table>

ATS, amphetamine-type stimulants.

Substances misused
Among those receiving BI, the substances of main concern to the patients or having the highest score in the moderate-risk range included tobacco, alcohol, cannabis, amphetamine-type stimulants, inhalants and krathom (Table 1).

Patient satisfaction
Ninety-six percentage of patients considered the procedure helpful and >85% rated it ‘satisfactory’ or ‘very satisfactory’; its advantages were appreciated and some patients modified or discontinued their drug abuse. Families were also satisfied. One wife, for instance, was delighted that her husband stopped drinking and squandering family income and marital harmony was restored. Some village health volunteers who successfully stopped smoking expressed so much satisfaction that they promoted knowledge of the intervention among other villagers.

Effect on staff
The interviews, before- and after-testing showed that care workers’ knowledge and skills in administering the procedure improved, although some continued to feel unsure of the procedure and/or unconfident in applying it, especially the intervention. These workers asked more senior colleagues to take
on this task. The benefits of implementing ASSIST-BI included making staff who had never previously encountered substance misuse more familiar with the problem, more knowledgeable about the substances commonly misused in their communities and more confident in engaging misusers in treatment. The proportion of care providers who rated themselves ‘very knowledgeable’ of intervention and ‘very confident’ in providing it markedly increased.

**Discussion**

**Main results of this study**

As a result of careful planning, training and execution, the project was accepted by management in the four pilot areas; it was considered helpful by patients and staff and patient satisfaction was high. That was in spite of the pressure of other work and competing priorities, many of them typical of those in developing countries. Many people capable of benefiting from intervention were identified. Because of the success of the project, the process of scaling up the service to a national level has been implemented. An unexpected consequence of the project was the extension of ASSIST-BI practice into settings outside the original scope of the project. These include general hospitals, psychiatric- and substance-abuse facilities and other domains where substance use is increasingly encountered—the justice system, workplace and educational establishments.

Although the uptake rate of ASSIST screening might be considered low, a pilot study involving almost 6000 patients is adequate to demonstrate what can be achieved by way of introducing a new procedure into primary care settings in the face of many obstacles: finding and offering intervention to many patients who would not otherwise have received such help; educating staff and setting an example for other units locally and eventually nationally.

Our results are consistent with those of SBI implementation studies carried out in Brazil, South Africa, Sweden and the USA. In those countries, as in Thailand, the simplicity of the procedure and key role of nurses were important in successful implementation, while competing workloads and priorities were the main barriers.

**What was already known about this subject?**

There has been a large increase in substance misuse in Thailand during recent decades. Its impact in developing countries is disproportionately larger than in affluent countries because they have fewer financial resources. There are no highly effective means of dealing with the problem and so any means of alleviating it should be grasped. This includes the ASSIST-BI package, whose main strength is that both the screening and intervention components are easy and quick to administer. They can be incorporated into a busy public health facility at low cost. Most of the evidence for its effectiveness is derived from relatively short-term studies on the misuse of alcohol, tobacco and other substances from countries as diverse as Australia, Brazil, India and the USA.

The procedure does not lead to the dramatic results we should like, but it is a useful adjunct to overall management and benefits achieved, multiplied nationwide, can have an appreciable beneficial effect on the enormous suffering that substance misuse inflicts on a country. These benefits were sufficient for the UK, Canada and Australia to recommend alcohol SBI in their national strategies.

**What this study adds**

We demonstrated that the ASSIST-BI programme could be successfully implemented in Thailand. It increased awareness of the drug problem and was well received. There was a high degree of patient and staff satisfaction with the procedure. This was achieved in spite of limited resources, prejudice and resistance to change.

In Thailand, as in other countries, prejudice against psychiatric disorders, especially substance misuse, added to scepticism over alleged benefits of the ASSIST-BI procedure, competing priorities and resistance to change all exist and militate against research and development. Resistance to change in psychiatric practice has been well recognized, even in affluent countries, since the extension of psychiatry from the hospital into the community more than half a century ago. Helping to overcome these obstacles—an intrinsic part of our methodology—was weaved into the development of the project from the outset, and our results show encouraging signs of making inroads.

Much has been learnt about the implementation of the procedure that is applicable to the introduction of similar procedures into other developing countries. This includes the importance of careful planning; obtaining support from those in positions of influence; gaining the support of clinical staff who are asked to divert sparse resources into a practice whose benefits may not be immediately apparent; skilled training; diligent monitoring and dissemination of findings.

**Limitations of this study**

The study was purely one of process evaluation: data on effectiveness and long-term outcome were therefore not presented (but will be published elsewhere).

The qualitative evaluations were generally positive, although there could have been a selection bias as some patients who were contacted for feedback did not respond. These people...
might have presented a different picture. We attempted to minimize the response bias by interviewing each type of participant—patients, relatives, healthcare and executive staff—until saturation of themes was achieved and by employing external interviewers with no previous knowledge of the interviewees.

Conclusions

Although the results of studies of the ASSIST-BI are encouraging, it is crucial that more research is carried out into its effect size and the maintenance of beneficial effects over longer periods; the results of research be carefully scrutinized and monitored; and revised judgements are made in the light of new evidence that might require us to modify our view and consequent priorities and practices. If future research produces even more encouraging evidence in support of ASSIST-BI, it will also be important to study more systematically the wider dissemination of the practice and long-term effects in larger populations. Finally, the introduction of the ASSIST-BI programme into Thailand was successful and can serve as a model for implementing similar public health procedures in developing countries.

Authors’ contributions

S.A. conceived and designed the study with advice from J.G.E.; S.A. and Q.B. collected and analysed the data; each author interpreted the data and contributed to drafting the manuscript.

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