ORIGINAL ARTICLE

SUBSTANCE USE PATTERN AMONG PRIMARY HEALTH CARE ATTENDEES IN SOUTHERN THAILAND

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Abstract

Objective: **The Alcohol, Smoking and Substance Involvement Screening Test (ASSIST) is the first screening test to cover all psychoactive substances including alcohol, tobacco and illicit drugs. It has been shown to be reliable, feasible, comprehensive and cross-culturally relevant in primary health care (PHC) settings in a number of internationally demonstrated studies. The present study aimed to describe the characteristics of patients in PHC settings in Thailand with regards to their substance use behaviours and responses to the ASSIST.** ***Methods:*** **All consecutive patients aged 16 to 65 years who visited a study hospital at the time of data collection were approached.** ***Results:*** **Of 775 patients, 747 were recruited into the study and the ASSIST was administered to them by trained research assistants and PHC workers. Among these, 7.1%, 67.9% and 25.0% were screened as high-, moderate- and low-risk levels for any substance use, respectively. Tobacco was the most common substance used followed by alcohol, marijuana, krathom leaves, amphetamine and krathom cocktail. Two hundred and forty five (245) moderate-risk substance users, excluding smokers, were assessed for their substance use behaviours, their readiness to change, their problems related to substance use, and their quality of life. The younger, middle and older age groups were statistically different in terms of substance use. Most patients were in the low and very low stages of change.** ***Conclusion:*** **Early detection and effective intervention is needed before substance users encounter substance-related problems. The ASSIST is suitable for use as a routine screening instrument and should be screened for teenagers and young adult patients who visit PHC facilities with particular emphasis on the popular substances of their age group.** ***ASEAN Journal of Psychiatry, Vol. 14 (2): July – December 2013: XX XX.***

Keywords: Alcohol, Smoking and Substance Involvement Screening Test (ASSIST), Substance Use, Primary Health Care Setting

Introduction

The global burden of disease and injury attributable to alcohol and illicit drug use amounts to 5.4%, estimated by the World Health Organization (WHO) in 2010 [1]. Harmful alcohol use is the leading risk factor for death in men aged 15-59 years and is responsible for 3.8% of all deaths worldwide in 2004 [2]. A national household survey in Thailand in 2007 found that among 45 million people aged 12-65 years the estimated numbers having used an

illicit substance within the past 12 months and the past 30 days before interview were 570,000 and 330,000, respectively [3]. In the same year only 69,380 people received treatment for non-alcohol and non-tobacco substance use disorders or related problems or 2.75% of those who were estimated to be using any kind of these illicit substances [4].

To help reducing problems related to substance misuse, the WHO recommends the Alcohol, Smoking and Substance Involvement Screening Test (ASSIST) and its linked brief intervention (BI) procedure to be used as an early intervention package in PHC settings [5]. The ASSIST with its linked BI (ASSIST-SBI) procedure has been shown to be reliable, feasible and cross-culturally relevant in PHC settings in a number of internationally demonstrated studies [6]. Similar to other countries, Thailand has shifted the emphasis of its public health strategy from treatment of substance dependence to prevention of earlier problems due to substance misuse. One of the effective prevention strategies is to early detect people with early or low-moderate level of substance misuse and engage them into treatment. Screening at the primary health care (PHC) level may increase the likelihood of identifying individuals with a lower level of risky substance use who are more likely to respond well to an intervention. PHC workers are generally seen as a trusted and credible source of health information and may provide the first point of contact with people who are at higher risk of harm from substance misuse [6]. Several attempts have thus been done in the health care system in Thailand towards this aim, including the development of the appropriate screening and brief intervention (SBI) package, study of the effective and efficient SBI service delivery model and capacity building of the PHC staff in early detection and providing initial intervention to those with substance misuse. The implementation and dissemination of the ASSIST-SBI in PHC settings was initiated in Thailand in 2010. In parallel to this implementation, a clinical trial has been undertaken to evaluate the cost-utility of the ASSIST-SBI for substance abusers in PHC settings in Thailand. The current paper, which is a part of the clinical trial aimed to describe the characteristics of the PHC patients in Thailand with regards to their substance use behaviours, their readiness to change, their problems related to substance use, and their quality of life. The results add into our understanding of the magnitude and nature of problems related to substance misuse among PHC patients, thus are useful inputs in the improvement of the SBI programme and scaling up of the SBI service across the country.

Method

Participants and data collection

This study was conducted among outpatients visiting any of four district and four sub-district hospitals in Pattani and Songkhla provinces, Thailand between July 2011 and March 2012. Subject recruitment was rotated from one hospital to another every month. Subject selection was based on a convenience sampling method. Patients aged 16 to 65 years, who were waiting to receive a treatment in the hospital on the days when the recruitment was being done, were approached. After checking for eligibility they were asked to join the study. Patients who were too ill to participate in a 30-minute interview, lived outside the district where the recruiting hospital was located or refused to participate were not recruited. Of the 775 eligible patients, 747 participants were recruited into the study. The ASSIST was administered to these participants by trained research assistants and PHC workers. Based on their ASSIST scores, participants were classified into three groups; low-, moderate- and high-risk. The low- and high-risk groups were given standard treatment of the hospital such as health education or referral to further intensive treatment and not included in the next stage of the study. Patients in the moderate-risk group for any of the substances, excluding tobacco, were assessed with other baseline measurements and were given the BI, following the 10 main steps of the WHO ASSIST-SBI [7]. All patients provided informed consent. The study was approved by the Ethics Committee of the Faculty of Medicine, Prince of Songkla University.

Measures

The ASSIST was developed for the WHO by an international group of researchers to screen for problems or risky use of alcohol, tobacco, and other illicit drugs [6]. The ASSIST contains eight items asking about experiences of 1) using substance in lifetime, 2) frequency of use in the prior three months, 3) having compulsion to use, 4) having personal health, economic, social and legal problems associated with substance use, 5) having a failure to meet social obligation, 6) having other people's concern about substance use, 7) prior attempts to control the use and 8) injecting drug use. The Thai version of the ASSIST, which was pilot tested for its comprehensibility and acceptability in community hospitals, health centres, a mental health hospital and drug treatment centre, was used in this study. Currently in Thailand, the most common substances of use, especially in the southern region, are krathom (mitragynine speciosa, Kroth., a traditional plant-based narcotic) and a krathom cocktail (a mixture obtained from boiling krathom leaves, cola soft drink, some prescription drugs such as benzodiazepines and cough syrup, and other toxic substances such as a mosquito repellent stick, internal fluorescent light bulb coatings and bleaching liquid). This mixture is called "4x100", "1-2 call", or "8x100" [4] by local residents. Krathom and krathom cocktail were also added to the list of substances under each of the eight questions of the Thai ASSIST. A risk score for each substance is obtained from asking these questions, where a score of 3 or less (10 or less for alcohol) indicates a low-risk level, 4-26 (11-26 for alcohol) a moderate-risk and 27 or higher a high-risk level.

The Stage of Change, Readiness and Treatment Eagerness Scale (SOCRATES) [8] measures the motivation and readiness to change a substance-using behavior. The 19-item, version 8 instrument was used in this study. It yields three domain scores: recognition, ambivalence, and taking step. Scores are classified as being in low, medium or high stages of change for substance using behaviour. Questions from the Addiction Severity Index (ASI) [9] were used to measure substance-related problems in the past month in seven areas: medical, employment/support status, alcohol, drug, legal, family/social and psychiatric problems.

The Schedule for the Evaluation of Individual Quality of Life (SEIQoL) [10] was used to measure respondents' quality of life in a semi-structured interview. First, respondents are asked to freely nominate the five domains that are the most important in their life. Those finding it difficult to nominate five domains are given a standard list [10-11], namely health, family, work, environment and love. Secondly, respondents rate each of these domains on a scale from 0-100, where 0 means "worst possible" and 100 means "best possible". Then they rate the relative importance of each domain by assigning a score ranging from 0-10, where 0 means not important at all and 10 means most important such that the total score must sum to 10. These scores are called weights. The SEIQoL index score is calculated by multiplying the rating of each domain with their weight divided by 1,000 and then summing the products. Index scores range from 0 to 1.

Demographic characteristics of substance users, motivation, and readiness to change substance using behavior, substance-related problems and quality of life were described using frequency and percentage for categorical data and mean with standard deviation and range for continuous variables. Types of substances used and frequency of substance-related problems were compared across age groups using chi-squared or Fisher's exact test as appropriate.

Results

Of the 747 patients, 93.7% were males and 43.0% were aged 16-25 years. Most (79.9%) were Muslim. About half had a secondary school level of education and worked as rubber tappers. Among all, 7.1%, 67.9% and 25.0% respectively were screened as high-, moderate- and low-risk levels for any substance use. Of these, 140 patients reported having never used any substance in their entire life while 179 patients had not used any in the past three months. Tobacco was the most common substance used, followed by alcohol, marijuana,

krathom leaves, amphetamine and krathom cocktail (Table 1).

Table 1. Categories of risk by specific substance (N = 747 patients)

Substance	Ever used in life time	Used in past 3 months	Category of risk group		
			Low risk	Moderate risk	High risk
Any substance	607 (81.3)	573 (76.7)	47 (25.0)	507 (67.9)	53 (7.1)
Tobacco	575 (94.7)	523 (91.3)	49 (8.5)	480 (83.5)	46 (8.0)
Alcohol	278 (45.8)	192 (33.5)	154 (55.4)	120 (43.2)	4 (1.4)
Marijuana	150 (24.7)	74 (13.0)	76 (44.4)	73 (48.7)	1 (0.7)
Krathom leaves	113(18.6)	55 (9.5)	66 (58.4)	46 (40.7)	1(0.9)
Krathom cocktail	100 (16.5)	65 (11.8)	35 (35.0)	61 (61.0)	4 (4.0)
Amphetamine	106 (17.5)	66 (11.5)	43 (40.6)	62 (58.5)	1 (0.9)
Heroin	62 (10.0)	51 (8.9)	19 (31.1)	40 (65.6)	2 (3.3)
Inhalants	17 (2.8)	15 (2.5)	13 (76.5)	0 (0.0)	4 (23.0)
Sedative	23 (3.8)	14 (2.4)	16 (69.6)	6 (26.1)	1 (4.3)

Table 2 shows the types of substances used by the moderate-risk substance users, stratified by age group. There was a statistically significant difference in types of substance use across age-groups. Patients in the middle and older age-groups mostly used alcohol, while krathom cocktail was the most popular substance among the youngest age group.

Table 2. Types of substances used by age group (N = 245 patients)

Main substance used	Age-group			*p*-value*
	16-25 years N (%)	26-45 years N (%)	46-65 years N (%)	
Alcohol	21 (15.0)	45 (53.6)	17 (81.0)	
Marijuana	8 (5.7)	5 (6.0)	1 (4.8)	
Amphetamine	16 (11.4)	6 (7.1)	1 (4.8)	
Krathom leaves	9 (6.4)	7 (8.3)	1 (4.8)	< 0.001
Krathom cocktail	82 (58.6)	13 (15.5)	0	
Heroin	2 (1.4)	8 (9.5)	1 (4.8)	
Sedatives	2 (1.4)	0	0	

**p*-value from a Fisher's exact test

Based on the SOCRATES, all 245 patients were in the low or very low stages of recognition and most were in the low or very low stages of ambivalence. Seven patients scored high or very high in the taking steps domain. However most of them were in the low or very low stages (Table 3).

Table 3. Stages of change (N = 245 patients)

Stage	Recognition N (%)	Ambivalence N (%)	Taking steps N (%)
Very high	0	1 (0.4)	3 (1.2)
High	0	2 (0.8)	4 (1.6)
Moderate	0	22 (9.0)	7 (2.9)
Low	8 (3.3)	103 (42.0)	58 (23.7)
Very low	237 (96.7)	117 (47.8)	173 (70.6)

Table 4 shows the frequency of substance-related problems, identified by the ASI questionnaire. The top five substance-related problems were unhealthiness, emotional distress, anxiety, depression and conflict with others. The presence of any substance-related problem was not statistically different between age groups. For each patient, the frequency of the problems listed was low with most reporting only one occurrence in the past month.

Table 4. Frequency of substance-related problems by age group (245 patients)

Substance -related problem	Age-group (years)				
	16-25 N (%)	26-45 N (%)	46-65 N (%)	Total (N)	*p*-value*
Unhealthiness	26 (18.6)	12 (14.3)	4 (19.0)	42	0.69
Emotional distress	29 (20.7)	9 (10.7)	3 (14.8)	41	0.15
Anxiety	24 (17.1)	11 (13.1)	1 (4.8)	36	0.29
Depression	23 (16.4)	11 (13.1)	1 (4.8)	35	0.34
Conflict with others	18 (12.9)	8 (9.5)	4 (19.0)	30	0.47
Conflict with self	17 (12.1)	8 (9.5)	3 (14.3)	28	0.76
Memory problems	10 (7.1)	8 (9.5)	4 (19.0)	22	0.20
Occupation problems	12 (8.6)	5 (6.0)	3 (14.3)	20	0.44
Law problems	14 (10.0)	4 (4.8)	2 (9.5)	20	0.37
Severe substance problems	15 (9.5)	4 (4.8)	3 (14.3)	20	0.28
Aggressiveness	9 (6.4)	7 (8.3)	0	16	0.38
Hallucination	8 (5.7)	5 (6.0)	0	13	0.82
Alcohol problems	5 (3.6)	6 (7.1)	2 (9.5)	13	0.22
Medical problems	9 (4.3)	1 (1.2)	2 (9.5)	9	0.10
Suicide attempts	3 (2.1)	4 (4.8)	1 (4.8)	8	0.43
Suicide ideation	5(4.1)	5(5.3)	4(3.3)	8	0.44
Any problem	46 (41.1)	31 (36.9)	9 (42.9)	95	0.78

**p*-value from a Chi-square test

Regarding the patient's quality of life, the mean overall SEIQol index of 245 moderate-risk substance users was 0.85, indicating a fairly high quality of life. Family and love domain had the highest quality of life scores (0.87), the other domains: work, environment, and health had scores of 0.79, 0.78 and 0.75, respectively.

Discussion

The present study aimed to describe the characteristics of patients in the primary health care setting in Thailand with regards to their substance use behaviours and responses to the ASSIST. The study found that more than two-thirds of the patients were screened as moderate-risk substance users (67.9%) and about 7% were classified as high-risk users. These findings indicate a high prevalence of substance misuse among PHC patients and an urgent need to implement early intervention services for substance misuse in this population. Besides tobacco, the most common substances in current users were alcohol, marijuana and amphetamine-group stimulants. As seen in other studies, harmful drinking is one of the most common problems found in clinical practice [12]. Evidence of the effectiveness of screening and brief intervention for hazardous-harmful alcohol use in primary care settings is most promising [13-14]. Our study highlights the need to implement the screening for alcohol use in these patients, especially among those aged 26-45 years where its prevalence was high.

One of the great concerns in Thailand nowadays is the large number of krathom cocktail users among our youth. This is also seen in our study where it was found to be the most common substance used in the youngest age group (16-25 years). Although there has yet to be any confirmed evidence of the toxicity of the krathom cocktail or its ingredients, its patterns of use among youth suggest harm already. It was found that this group mostly use krathom cocktail while they socialize with friends causing them to be absent from school as well as having a negative effect on their grades. Continued use may also lead to physical violence or unintentional self-injury among these young users because of the disinhibition effects of the benzodiazepine or codeine-cough syrup added to the mixture, both controlled substances in Thailand. Krathom is the most popular substance used in Thailand now, especially in the southern region where it is highly available [15]. Our study thus suggests that teenage and young adult patients who visit PHC facilities should be screened for their substance use with particular emphasis on the popular substance of their age group.

Most patients in this study were in the low and very low stages of change, indicating that they had little desire to change their substance use behaviour. These patients visited the PHC clinics because of their non-substance use physical illness. They hardly had awareness of their substance using behaviour or related problems so they had low motivation to change such behavior. In the interviews with some patients we were told that it was the first time they were asked to discuss about their substance use and they never realized before that some health, emotional or relationship problems they encountered were related to their substance use. Administering the ASSIST and BI may encourage some patients to think about this risky behaviour, and its consequences as seen in other studies [16, 17].

In this study, about 40% of the moderate-risk substance users reported having at least one substance-related problem. The nature of the problems was not significantly different between age groups. Feeling unhealthy, having emotional distress, anxiety, depression and conflicts with others were the five most common problems; all of which are psychological problems. Several studies report the co-occurrence of psychiatric and substance use disorders [18, 19]. Our finding is useful for developing specific techniques for treating psychoactive substance users which should include not only changing their substance use behaviours but also advice and management of their psychiatric disorders or psychological problems.

The quality of life of our patients was fairly high, indicating that they were satisfied with their life at that moment, particularly for family and love domains, demonstrating that the patients put highest value on these domains. Studies found poorer quality of life among chronic methamphetamine users and alcohol dependent subjects with relapse into heavy drinking [20, 21]. The patients in this study were not chronic substance users or dependents. Most were still young and employed. Moreover, those with chronic physical or mental condition were

excluded. Therefore, they had high scores on the SEIQoL, which indicates a high health-related quality of life.

Limitations

Patient recruitment in this study was based on convenience sampling in community hospitals and sub-district health centres in Pattani and Songkhla provinces; thus the generalizability of our findings to the general population or other OPD populations is limited. A high proportion of our sample could not speak Thai well, thus their understanding of the ASSIST and other questionnaires may be limited, resulting in some inaccuracies of the ASSIST scores and classification of the subjects into the correct risk levels. However, the researcher could speak Malay, the local language, for administering ASSIST and double checked the results after administering ASSIST to each patient.

Conclusion

Addressing unhealthy substance use for different risk groups and providing appropriate interventions is needed to reduce the burden of illness associated with substance use disorders in PHC settings. The ASSIST was suitable for use as a routine screening to the patients in PHC setting who were in the low stage of change and is needed before they encounter substance-related problems. It can detect a high number of substance users who would benefit from treatment and should be screened for young adult patients who visit PHC facilities with particular emphasis on the popular substance of their age group in the endemic area. Therefore, our study recommends that PHC professionals incorporate the ASSIST into their public health care system in Thailand.

Conflict of interest: None

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