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The Evaluation of Training on Drug-Abuse Prevention in High Risk Secondary Schools in Bangkok

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ABSTRACT

The recent survey by the Education Ministry found that 50,000 pupils out of 2.57 million pupils were drug addicts. The type of druges used were amphetamine, volatile substances, marijuana, heroin, and others. The objectives of this study were to indentify drug-abuse risk factors and to study the effectineness of education on health through self-discovery for the prevention of drug-use in the drug-risk schools in Bangkok.

Nine drug-risk schools were selected and pupils with and without histories of drug-use were divided into experimental and comparison groups. The instruments consisted of questionnaires and learning materials on health through self-discovery sessions for the prevention of drug-use. The reliability of the pre-and post-test Questionnaires was 0.545. The education instruction was implemented by school teacher on a voluntary basis for the duration of 2 months.

The results showed that pupils' cigarette smoking, alcohol drinking and positive history of drug-use, and pupils' friends alcohol drinking were significant risk factors of drug-use. The school drug-education increased pupils' knowledge significantly only in the comparison group, while attitude and practice of both experimental and comparison groups increased not significantly. Formal school drug-curriculum, follow-up evaluation and correction, and sufficient time for effective success in needed for the prevention of drug-abuse in high-risk secondary-schools in Bangkok.

การประเมินผลฝึกอบรมเพื่อการป้องกันการใช้สารเสพติดในโรงเรียนมัธยมศึกษาที่เสี่ยงภัยสูงในกรุงเทพฯ

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บทคัดย่อ

รายงานการสำรวจการใช้สารเสพติดโดยกระทรวงศึกษาธิการเมื่อเร็ว ๆ นี้ พบว่านักเรียน 50,000 คน จากทั้งหมด 2.57 ล้านคน ติดยาเสพติด สารเสพติดที่ใช้ ได้แก่ ยาบ้า กาว กัญชา และเฮโรอีน วัตถุประสงค์ของการศึกษานี้ เพื่อค้นหาปัจจัยเสี่ยงของการใช้สารเสพติดในนักเรียน และประเมินผลการฝึกอบรมเพื่อป้องกันการใช้สารเสพติดโดยให้การศึกษาที่ช่วยให้นักเรียนค้นพบตนเองเกี่ยวกับสุขภาพและยา ในโรงเรียนมัธยมศึกษาที่เสี่ยงภัยต่อสารเสพติดในกรุงเทพฯ

โรงเรียนมัธยมศึกษาที่เสี่ยงภัยสูง จำนวน 9 โรงเรียน มีนักเรียนที่มีประวัติใช้สารเสพติด 204 คน ไม่มีประวัติใช้สารเสพติด 179 คน แบ่งเป็นกลุ่มทดลองและกลุ่มเปรียบเทียบ ตามลำดับ เครื่องมือรวบรวมข้อมูลประกอบด้วย แบบสอบถาม 3 ชุด เพื่อเก็บข้อมูลภูมิหลัง แบบการอบรมเลี้ยงดูของบิดามารดาและแบบวัดความรู้ทัศนคติและการปฏิบัติเกี่ยวกับสุขภาพและการใช้สารเสพติดของนักเรียนและบทเรียนให้นักเรียนค้นพบตนเองเกี่ยวกับสุขภาพและการใช้ยาพร้อมแบบทดสอบก่อนและหลังเรียน ดำเนินการสอนโดยครูของโรงเรียนแบบอาสาสมัคร ในระยะเวลา 2 เดือน

ผลการศึกษา พบว่า ปัจจัยเสี่ยงที่มีนัยสำคัญทางสถิติต่อการใช้สารเสพติดของนักเรียนประกอบด้วย นักเรียนสูบบุหรี่ ดื่มสุรา และมีประวัติใช้สารเสพติด และเพื่อนของนักเรียนดื่มสุรา ซึ่งสามารถทำนายการใช้สารเสพติดในนักเรียนได้ 34.5% ความรู้ของนักเรียนเฉพาะกลุ่มเปรียบเทียบเท่านั้นที่สูงขึ้นอย่างมีนัยสำคัญทางสถิติ ส่วนทัศนคติและการปฏิบัติของทั้งสองกลุ่มสูงขึ้น แต่ไม่มีนัยสำคัญทางสถิติ ดังนั้น การให้การศึกษาเพื่อป้องกันการใช้สารเสพติดจำเป็นต้องบรรจุอยู่ในหลักสูตรอย่างเป็นทางการ และต้องการมีติดตามประเมินผลและแก้ไขโดยใช้เวลา เพื่อความสำเร็จอย่างมีประสิทธิภาพในการป้องกันการใช้สารเสพติดของนักเรียนชั้นมัธยมศึกษาในโรงเรียนที่เสี่ยงภัยสูง

Introduction

Six Mekong countries, Burma, Cambodia, China, Laos, Thailand and Vietnam, which are the source of over 50% of world opium and heroin output, jointly declared in the UN General Assembly Special Session on the World Drug Problem in New York, between June 8-10, 1998 that they desired to create a drug free zone in Southeast Asia by 2008. This move was in addition to their endorsement of a global political initiative of six specific action plans on precursor chemicals, amphetamine-type stimulants, judicial cooperation, money laundering, elimination of illicit crops with alternative development, and demand reduction. The six countries stressed the demand reduction programs to cover all areas of prevention, treatment, rehabilitation and social reintegration with particular emphasis on community participation aiming at specific groups, especially the youth. While drug-use rates in Western Europe and the U.S. are going down, the drug-abuse rates in many of the developing countries are going up

Drug-addicts in Thailand are familiar with opium, morphine, heroin, as well as cocaine, amphetamine ecstacy (methylene dioxy methamphetamine or MDMA), and LSD (D-lysergic acid dimethylamide). Also widely used are marijuana, inhalants and drug cocktails. More recently the use of four new drugs-Aminorex, Etryptamine, Methcathinone and Mesocarb which were brought in by tourists were confirmed by public health authorities. It is not only that more and more dangerous drugs are available, but also more different classes of people are using the new drugs, such as well-to-do youths, middle-aged labourers and young students. The survey of 2.57 million pupils from secondary up to high schools, technology institutes, and colleges, found that over 50,000 pupils were drug-addicts. The highest type of drug-use was amphetamine with the range of 0.57-0.99%, followed by solvents (0.031%), marijuana (0.016%), and heroin (0.016%). How to suppress narcotics in schools and to make school free of drugs including preventing pupils from drug-use should receive great attention.

The objectives of this study were to identify drug-abuse risk factors and to study the effectiveness of drug-abuse prevention in high risk secondary schools in Bangkok.

Material and Method

Nine drug-risk secondary schools suggested by the Division of Pupil-Inspection of the Education Ministry were included in this study. A quasi-experimental design consisted of 204 pupils with histories of drug-use (as an experimental group) and 179 pupils with no history of drug-use (as the comparison group). A questionnaire was developed to collect pupils' general background information, (21 items), and pupils' parents-care (reasonable, strict and laissez-faire care, totally 27 items), and pupils' knowledge-attitude-practice related to drug-use and health, 39 items. The education materials were developed based on health through self-discovery, totalling 40 sessions

as follow :

Session no. Self-discovery	Session no. Laboratory
1. A test for your health style scores.	3. Our value and our health.
2. Evaluating your health status.	4. Changing unhealthy behavior by using health belief model
5. A measure of your self-esteem scale.	11. Observing, analysing and practising assertiveness
6. Your alienation scale.	15. Coping with frustration.
7. Your health locus of control scale.	16. Shouting feelings and thoughts.
8. Your assertiveness scale.	19. Observing the effects of stress.
9. Your health values system.	20. Observing and discussing the physiologic reactions to relaxation.
10. Influence by peer pressure.	24. Evaluation abdominal and shoulder/ Arm strength.
12. Copying with difficult situations.	25. Evaluating cardiorespiratory fitness.
13. Coping analysis	28. Analyzing personal eating habits.
14. Myths about suicide.	29. Survey of nutritional myths.
17. Identifying stressors in your life.	32. Observing the effect of peer-pressure.
18. Stressors of college/school life.	36. Drawing a profile of the drinking behavior of the class.
21. Evaluating your fitness level.	37. Values and drinking behavior.
22. Determining your target heart rate.	
23. Determining your aerobic conditioning Level.	
26 Evaluating your body for indication of Your nutritional status.	
27. Your nutrition biases.	
30. Foods as rewards.	
31. Why do you think people abuse drugs?	
33. Your first drink.	
34. Who is most likely to be an alcoholic?	
35. Signs of alcoholism.	
38. What do you think the effects of smoking are?	
39. Why do you smoke?	
40. Do you want to change your smoking habits?	

Teacher (s) introduced each session, pupil followed by self-reading or group processing, and completing the tests, the achieved scores would disclose self.

The reliability of pre-and post-test questionnaires was 0.545.

The training sessions were implemented in January to February 1997.

Results

The range-number of pupil in each of nine drug-risk schools was 18-60. There were more males (326) than females (57). Most of them were Buddhist (94.5%), living with parents (70.0%), in their own-home (50.8%). Trading and wage-working were the two major occupation of pupils' families. About half of their parents had primary school education.

The percentage of pupils in the comparison group spent more time on book-studying, cartoon book reading and physical exercise than those in the experimental group. On the contrary, the experimental group spent more time on music-playing, straying for pleasure, chatting with friends, remaining idle, than the comparison group.

When pupils had problems, they initially consulted with parents, then friends, relatives, father, teacher and other, repectively. The pupils in the experimental group revealed more unhealthy behaviors, such as smoking, gambling, running away form home and school, and drinking than those in the comparison group.

Pupils' parent-care characteristics showed that the experimental group had significantly higher mean scores by item laissez-faire care and strict care, but significantly less scores of reasonable care than the comparison group. (Table 1). The mean score of parents' care before and after intervention between experimenal group and comparison group showed significantly difference (Table 2)

The mean scores of knowledge (K), attitude (A), and practice(P) between groups were significantly different, both before and after intervention (p-value less than 0.05). (Table 2). The mean scores of KAP within group increased not significantly after intervention, except knowledge of the comparison group increased significanlty (p-value less than 0.05). (Table 3).

The relative risk and 95% confidence interval limit of independent variables which showed statistical significance were : pupil's cigarette smoking, pupilís alcohol drinking, pupil's running away from school and from home, pupil's friend cigarette-smoking, pupil's friend alcohol drinking and pupil's friend marijuana use. The covariate analysis after adjustment for independent variables, pupil's alcohol drinking, pupil's cigarette smoking, pupil's friend alcohol drinking, and history of drug-use could predict drug-use 34.5% (Table 4,5).

Discussion

There have been no courses on life-skills development in the school curriculum, such as skill of evaluation of self potentials, priority setting skill, skill for problem-solving, and others. This drug-abuse prevention education included the development of life skills (self-discovery activities and laboratories) totalling 40 sessions. Many studies have shown

that peer pressure is one of the major causes of drug-use, this influence of peer pressure was one of the 40 activities.

The study on evaluating the revised curriculum "Here's Looking at You Two", which found the program was effective in communicating information to elementary and middle school students, but had little impact on attitudes critical to changing drug-use behaviors. This study showed that pupils' KAP increased but not significantly both in experimental and comparison group, except K of comparison group increased significantly.

Table 1 Mean score and mean difference between experimental and comparison-groups by item.

	Experimental		Comparison		t-test		95% CI	
	Mean	S.D.	Mean	S.D.	value	2-tail sig.		
1. Your parents sometimes do not reasonably allow you to be associated with your friends (R)	2.26	1.15	1.94	.97	2.84	.005	.096	.528
2. When you do not follow your parents' command, you are punished (S).	3.19	1.11	3.29	1.17	-.85	.393	-.330	.130
3. You do not feel loved at home (L).	2.65	1.29	2.20	1.28	3.40	.001	.189	.707
4. Your parents never listen to your idea (R).	2.39	1.11	2.16	1.10	2.05	.042	.009	.455
5. You always have to behave according to your parents' command (S).	3.02	1.08	2.85	1.10	1.58	.115	-.043	.396
6. Your parents are not interested in your association with friends (L).	2.52	1.04	2.43	1.10	.77	.442	-.132	.301
7. When you lose your money or things, your parents ask you its cause (R).	3.77	1.10	4.00	1.05	-2.10	.306	-.448	-.015
8. When you want to go out, you have to ask your parents' permission (S).	3.87	1.08	3.87	1.14	-.03	.978	-.227	.221
9. You recieve the least help from your parents (L).	2.41	1.09	1.95	.94	4.41	.000	.256	.669
10. When you are apathetic, your parents ask you about its cause (R).	3.66	1.02	3.83	1.06	-1.63	.104	-.383	.036
11. When you do something wrong, your parents put pressure on you (S).	3.17	1.22	2.95	1.36	1.64	.102	-.043	.477
12. You have never been taken care by your parents (L).	2.30	1.22	1.89	1.08	3.46	.001	.178	.646
13. Your parents allow you to go out with your friends properly (R).	3.70	1.08	3.94	1.01	-2.15	.032	-.444	-.020
14. When you do something wrong, you are always punished (S).	3.43	1.07	3.26	1.22	1.37	.170	-.069	.391

	Experimental		Comparison		t-test		95% CI	
	Mean	S.D.	Mean	S.D.	value	2-tail sig.		
15. Your parents are not interested in where you go (L).	2.44	1.18	2.17	1.09	2.32	.021	.041	.502
16. When your parents have bad tempers, they always scold you (R).	2.97	1.28	2.60	1.23	1.34	.182	-.081	.425
17. Your parents do not permit you to go out with your friends when you ask (S).	2.94	1.17	2.66	1.11	2.37	.018	.047	.506
18. Your parents never tell you what you do right or wrong (R).	2.36	1.04	2.21	1.17	1.38	.168	-.066	.378
19. Your parents build good understanding in the family (S).	3.97	1.06	4.22	1.03	-2.31	.021	-.459	-.037
20. Your parents are interested in every thing that happens to you (L).	3.91	1.02	4.02	1.05	-1.04	.301	-.318	.099
21. Your parents do not control your work (L).	2.78	1.11	2.57	1.10	1.89	.059	-.008	.437
22. Your parents always make temperamental judgements (R).	2.51	1.20	2.39	1.23	1.13	.258	-.104	.386
23. Your parents always take care of your health (S).	3.82	2.05	3.83	1.08	-.03	.976	-2.18	.211
24. When you do good work, your parents never praise you (L).	2.79	1.10	2.81	1.21	-.18	.856	-254	.211
25. When you come home late, your parents ask you the reason (R).	4.13	.85	4.23	.79	-1.20	.229	-.268	.064
26. Your parents advise you and know every thing certainly (S).	3.91	.91	3.86	1.05	.45	.650	-.151	.242
27. You feel that you are not important in the family (L).	2.34	1.20	2.13	1.13	1.81	.072	-.019	.452

Table 2 Mean difference of KAP and parents' care between experiment and comparison groups, before and after intervention.

Group/Variable	n	$\overline{X}$	S.D.	t	P-value
1. Before intervention					
Parents' care					
Exp. Group	204	3.06	0.31	2.70	.007*
Comp. Group	179	2.97	0.33		
Knowledge					
Exp. Group	204	5.27	1.80	-3.07	<.002*
Comp. Group	179	5.83	1.70		
Attitude					
Exp. Group	203	2.49	0.26	-4.94	<.001*
Comp. Group	179	2.61	0.21		
Risk behavior					
Exp. Group	204	4.00	1.89	7.83	<.001*
Comp. Group	179	2.58	1.67		
2. After intervention					
Parents' care					
Exp. Group	204	3.10	.35	2.55	.011*
Comp. Group	179	3.02	.30		
Knowledge					
Exp. Group	204	5.35	1.78	-4.55	<.001*
Comp. Group	179	6.16	1.67		
Attitude					
Exp. Group	203	2.50	0.27	-4.24	<.001*
Comp. Group	179	2.61	0.22		
Risk behavior					
Exp. Group	204	3.96	1.99	7.35	<.001*
Comp. Group	179	2.63	1.54		

Table 3 Mean difference of KAP and parents' care between before and after intervention, within experiment and comparison groups.

Group/Variable	n	$\overline{X}$	S.D	Paired-t-test	P-value
1. Exp. Group					
1.1 Parents' care					
Before	204	3.06	0.31	-1.61	.110
After	204	3.10	0.35		
1.2 Knowledge					
Before	204	5.24	1.80	-0.51	.609
After	204	5.35	1.77		
1.3 Attitude					
Before	201	2.49	0.26	-0.51	.609
After	201	2.50	0.27		
1.4 Risk behavior					
Before	204	4.00	1.89	0.29	0.769
After	204	3.96	1.99		
2. Comparison group					
1.1 Parents' care					
Before	179	2.97	0.33	-1.63	.106
After	179	3.02	0.30		
1.2 Knowledge					
Before	179	5.83	1.70	-2.12	0.035*
After	179	6.16	1.67		
1.3 Attitude					
Before	176	2.61	0.21	-0.145	.878
After	176	2.61	0.22		
1.4 Risk behavior					
Before	179	2.58	1.67	-0.49	0.622
After	179	2.63	1.54		

Table 4 Relative risk and 95% confidence interval of independent variables, between experimental and comparison group.

Variable	Chi-square			
	Value (df - 1)	**Significance**	**RR**	**95% confidence Bounds**
Pupils' friend smokes cigarette.	30.12651	.00000	3.97617	2.38405-6.63155
Pupils' friend drinks alcohol.	18.91070	.00001	2.52388	1.65584-3.84698
Pupils' friend uses amphetamine.	2.11585	.14578	1.4932	0.86897-2.55251
Pupils' friend smokes marijuana.	5.57073	0.1826	1.87238	1.10701-3.16690
Pupils' runs away from school.	24.01261	.00000	2.83071	1.85747-4.31388
Pupils' runs away from home.	7.15134	.00749	2.70400	1.27429-5.73781
Pupil gambles.	0.49187	.048309	1.1550	0.77146-1.73074
Pupil smokes cigarette.	102.97133	.00000	11.17647	6.76201-18.47283
Pupil drinks alcohol.	54.27498	.00000	5.21241	3.30847-8.21201

Table 5 Analysis of covariance and adjusted for independent variables.

Variable + Category	N	Unadjusted		Adjusted for independent+covariates	
		Dev'n	Eta	Dev'n	Beta
History of drug use					
Exp.	200	.63	.35	.16	.09
Comp.	176	-.7		-.19	
Pupil smokes					
No	216	-.85	.52	-.37	.22
Yes	160	1.14		.50	
Pupil drinks					
No	223	-.81	.51	-.40	.25
Yes	153	1.18		.58	
Friend drinks					
No	147	-.80	.34	-.23	.10
Yes	229	.52		.15	
Multiple R^2 .345					
Multiple R .587					

The education processes of this study were implemented by school teachers, another study reported the use of law-enforcement officers for an eight weeks education program at the fifth or sixth grade level. The result indicated the improvement of decision skills and positive change in some attitudes and beliefs concerning substance-abuse. Another study on the effectiveness of drug education components-knowledge, attitudes, decision making, motivations, and self-esteem, of 400 students from fourth through eighth grad in suburban school, taught by certified classroom teachers trained in drug education curriculum, for a minimum of 30 minutes each day for 30 days. The result showed that self-esteem did not improve significantly. The scores on knowledge and attitudes improved significantly from the pre- to post-test and there was a significant positive correlation between decision making and knowledge /attitudes, which supported the premise that if one was supplied with correct knowledge, one would make a correct decision. This study found that pupils in the comparison group, who had no history of drug-use, increased their knowledge significantly and had less unhealthy behavior such or smoking, gambling, running away from home and from school, drinking and also had friends with less unhealthy behaviors that might affect more peer pressure or drug-use. If the teachers in this study had training in drug-education, the effectiveness of their implementation in drug education in their respective schools would be increased

more than the present results. This study confirmed that there was a significant relationship between correct knowledge and healthy behavior.

The evaluation study on the effectiveness of school health education projects on substance-use, self-esteem and stress which included 161 adolescents in fifth though eighth grades in four schools, where the predominate education method used was lecture/discussion, showed no significant differences between pre- and post-test questionnaires for frequency of substance-use (such as tobacco products, alcohol, marijuana, and others) self-esteem, of stress symptomology. So, effective school health education programs needed sufficient quantity and quality and the intermediate health enhancing variable of self-esteem. Another two-year follow-up study of a randomized drug-abuse prevention trial in 56 public school in a white middle-class population in the U.S.A., which included 10 classes in seventh grade, ten booster sessions in eighth grade and five booster sessions in ninth grade, on the general life skills and skill for resisting social influences to use drugs, showed that there was significant reduction in both drug-use and polydrug-use (44% fewer use of tobacco or alcohol or marijuana, 66% fewer use of polydrugs). The strongest effects were produced for individuals who received a reasonable complete versions of the intervention. This study was conducted on a voluntary basis in the period of only 2 months duration and the results were low. So, the drug-abuse education program should be a part of the school health curriculum at every level and in every type of school with the emphasis on prevention of problems of drug-use in that particular school and in that community.

Previous studies revealed that cigarette usage was significantly associated with lower self-esteem, and efforts to improve self-esteem had an influence on multiple health behaviors and the development of self-esteem decreased the potential for alcohol and drug-use. Another study 2,589 fifth and sixth grade students showed that susceptibility to peer pressure had more influence on adolescent substance-abuse than self-esteem (or health locus of control). This study found that pupil's smoking, pupil's drinking, pupil's positive history of drug-use, pupil's friends smoking, and pupil's friend drinking were significant independent variables, which could predict drug-use 34.5%. This suggested that future health behavior interventions should include all causes with explicit focus on pupils, their families and friends, including innovative teaching with sufficient time. The availability of drugs in the market should be concurrently suppressed too.

Conclusion

Drug-abuse is an increasingly important world problems and its rate in the developing countries including Thailand is going up, and more classes of the population are using the new drugs. The objectives of this study were to indentify the risk factors

of pupil's drug-use and to evaluate the effectiveness of drug education in the high drug-risk schools in Bangkok.

Nine high drug-risk schools were selected by suggestion of the Division of Pupils Inspection under the Education Ministry. A quasi-experimental design consisted of 204 pupils with history of drug-use and 179 pupils with no history of drug-use as an experimental and comparison groups, respectively. Three types of questionnaires were developed to collect pupil's general background information, pupils' parent-care, and pupils' knowledge, attitude and practice related to health and drug. 40-sessions of self-discovery and laboratory-activities were developed with pre- and post-test. quastionnaires. Its reliability was 0.545. The education instruction was implemented by school-teachers, on a voluntary basis.

The results showed that pupil's drug-abuse risk factors were pupil's cigarette smoking, pupil's alcohol drinking, pupil's friend alcohol drinking and history of drug-use which could predict drug-use 34.5%. The health through self-discovery intervention was implemented by school teachers and showed that pupil's knowledge, attitude and practice increased but not significantly from pre- to post- test, except the knowledge of the comparison group. To increase the effectiveness of drug-abuse prevention, the school drug-education should be included in the school curriculum, and implemented continuousely for several years, with follow-up evalution, and correction, until success is confirmed.

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