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EFFECTIVENESS OF LIFE SKILLS TRAINING AND PROMOTING FAMILY ENVIRONMENT TO PREVENT YOUTH SUBSTANCE ABUSE: A STUDY IN KHON KAEN, THAILAND

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ABSTRACT: Substance abuse is the major health problem in Thailand, despite the local government organization's prevention program. Training in life skills development in combination with promoting family environment has been found to effectively reduce the drug abuses in many countries. However, no study has investigated this method in Thailand. The purpose of this study was to assess the effectiveness of life skills training in combination with promoting a family environment to prevent youth drug abuse. A quasi-experimental study was conducted from October 2014 to September 2015. Participants consisted of 969 youths from different sub-districts were randomly allocated to either intervention arm (received the training in life skills development and promoting family environment) or control arm (received the prevention program by local government organization). Data were collected through self-report questionnaires in the period of 3 months and 6 months. There were significant differences between the mean scores of family environment subscale; the *p*-value for cohesion was <0.001, and *p*-value for conflict was 0.05. The proportion of new drug users was significantly lower in the intervention group (mean difference 0.54, 95%CI: 0.009-0.1) but no significant difference in the proportion of new drug users between the two groups at 6-months follow-up. Absolute risk reduction (ARR) of the intervention group to reduce new drug abuse at the period of both 3 and 6 months was 0.54, the number needed to harm was 18.4. The life skills training in combination with family environment promotion was effective for at least 6 months to prevent drug abuse.

Keywords: Family environment, Life skills training, Prevention, Substance abuse, youth

1. INTRODUCTION

Substance abuse has been a major global health burden [1]. It was estimated that 1 in 20 adults, or a quarter of a billion people between 15 and 64 years of age, used at least one drug in 2014 [2]. Nevertheless, as over 29 million people who use drugs are estimated to suffer from drug use disorders, and of those, 12 million are people who inject drugs, of whom 14.0 percent are living with HIV, the impact of drug use in terms of its consequences on health continues to be devastating. With an estimated 207,400 drug-related deaths in 2014, corresponding to 43.5 deaths per million people aged 15-64.

The number of drug abusers in Thailand has increased from 598,765 in 2011 to 1,425,342 in 2016. [3] The national household survey on substance abuse in Thailand was conducted in 2001, 2004, 2007, 2008, 2011 and 2016, and the last survey in 2016.[4] with 27 of 77 provinces selected for sampling. The total sample of 32,410 respondents was between 12-65 years of age. It is estimated that 5.8% (2.94 million) of people between 12 and 64 used at least one drug in their lifetime, compared to 3.9% (275,887) and 5.1% (264,462) of people between 12-19 and 20-24, respectively. The most common illicit drug used in Thailand is Kratom (*Mitragyna speciosa* Korth.—a stimulant at lower doses and an opioid-like effect at higher doses) used by 10.56/1,000 population followed by methamphetamine (Ya-ba) [used by 8.69/1,000] and cannabis [used by 3.70/1,000].

Youth lifetime risk behavior is highest for alcohol consumption (69.5%), followed by smoking (61.1%) and drug misuse [5], the prevalence lifetime among 11-25 years was 37.7 % and smoking 14.1 and drug use 7.7 [6]. The earliest age of onset for Thai adolescent drug use averaged 14.7 years for cigarettes, 14.3 years for alcohol, 18.0 years for methamphetamine, and 17.0 years for cannabis. The prevalence of substance abuse is occurring at higher rates at younger ages, with children and adolescents between 15-29 years being the most involved group; about 60% of addicts and village and community distributors. It is a grave situation, so this study was conducted on youth in and out of school, to determine the risk factors for drug use behavior among child and adolescents in the next revealed that drug exposure, family, self- management, advance thinking skill, self-defense skills.

There are many evidence that youth are getting involved in substance abuse as early as the 1 2 –1 4 years old [7-9] . Numerous government policies have been implemented to prevent drug uses among youth. [10] One of currently used strategy is the

drug abuse prevention programs of the local government organization management (LGM) [11]. However, the problem persists.

Many studies showed that some individual personalities could increase the chance of drug abuses, such as neuroticism, disinhibition, disagreeableness, antisocial, passive-aggressive disorder, and borderline personality disorder [12-13]. Evidence suggests that training in life skills development and promoting family environment effectively reduced the drug uses. A meta-analysis on life skills training effectiveness for drug abuse prevention found in 36 studies and determined an over effect size of 0.09 (p-value <0.05) [14] . The meta-analysis suggested that only 4 of the 29 studies involved randomized control trial and were sufficiently well designed with statistical powered to assess effects on drug use. However, there is no study reported the effectiveness of training in life skills development and promoting a family environment in Thailand despite socioeconomic context different from other countries.

Over the past decades, life skills education has an important role in the social and personal development of adolescence. The most common definition of life skills has been given by World Health Organization as "abilities for adaptive and positive behavior that enable individuals to deal effectively with the demands and challenges of everyday life" [15].

Life Skills Training (LST) is an evidence-based substance abuse prevention program was developed by Dr.Gilbert J. Botvin, Professor of Public Health and director of Cornell University Institute for Prevention Research. The program has been effective in preventing substance abuse, smoking, alcohol use in child and adolescence. The effectiveness that integrates both families, schools, and community [16]. showed a significant between pre-post test mean scores of drug abuse preventive behaviors of both groups and remained stable 4 years after the intervention.

The effectiveness of the life skills training and promotion of a family environment for prevention of substance abuse among youth in Khon Kaen, Thailand, is an integrated program adapted from the Life Training for Youth: A drug Abuse Prevention Training Manual by the Colombo plan drug advisory program and promoting family environment because of family factors also seem to be important issues to Thai substance abuse. Family conflict is a most important variable which leads to use substance and alcohol, Family cohesion is a protective factor. We use the power of family to against drug abuse: a manual for a parent, examines the effect of life skills training and promoting the family environment. The hypothesis that intervention would significantly after 6 months follow up.

To enhance a better understanding of the effectiveness of training in life skills development and promoting a family environment of Thai youth in the socioeconomic context Thailand, a quasi-experimental study was conducted.

This study aimed to assess the effectiveness of life skills training and promoting a family environment for youth drug abuse prevention in Khon Kaen province.

2. METHODS

2.1 Design and setting

A quasi-experimental study was conducted in sub-districts of Khon Kaen, Thailand from October 2014 to September 2015.

2.2 Participants

Nine hundred sixty-nine youths from 4 sub-districts in Khon Kaen Province, Thailand aged 12-25 years participated in this study. All participants were randomly allocated according to their residence in sub-district to either an intervention group (received the training in life skills development and promoting family environment) or a control group (received the standard drug abuse prevention programs of the local government organization management).

The proposal of this study was approved by the Khon Kaen University Ethics Committee for Human Research based on the Declaration of Helsinki: reference No. HE571461. Participants volunteered and were screened according to the inclusion and exclusion criteria. All participants gave written informed consent and a parent/guardian provided additional consent for the youth under 18 (who themselves provided assent).

2.3 Intervention

The program of life skills training and promoting family environment among the youth in the community consisted of the following activities: 1) discussion with the youths on risk factors for drug use, life skills, knowledge of substance misuse and drug awareness, self-understanding and family, motivation coping, and behaviour effective communication; 2) family visits; and, 3) providing media on (i) how to apply techniques to guide activities for teaching/learning life skills for youth [17], and (ii) empowering the family to overcome risk factors for narcotic drug use [18].

2.4 Procedure

The program was developed from (a) the Life Skills Training for Youth: A Drug Abuse Prevention Training Manual, and (b) the Family Training Manual. The outreach comprised 18 hours of group training over 3 days. The objectives of the program were to: (1) Increase knowledge about substance and

drug abuse; (2) Increase self-awareness and problem-solving skills; (3) Increase skills in coping with stress, mental distress, conflict, and drug rejection; and, (4) Increase effective communication skills and reduce family conflict.

The program includes 7 sessions: 1) Introduction – understanding yourself and others; 2) Self-esteem & self-awareness; 3) Effective communication; 4) Decision-making; 5) Communication Ideas; 6) Coping skills for emotional stress; 7) Parental training; and, Family manual training. The training covered three days: First day: Self-awareness and self-esteem; Second day: Effective communication and thought communication; and, Third day: Coping Skills, family training. Training was conducted at the Auditorium of the Municipal Administrative Office, when available. A trained facilitator organized the group process with 3 to 5 assistants chosen from amongst the participants.

2.5 Measurement Equipment

Substance abuse behavior assessment form is a self-report questionnaire designed to access with single quantity and frequency items. The questions in the questionnaire were included the demographic characteristic, the and behavior of substance abuse in a lifetime, last 3 months past and using during 30 days. Substance—alcohol, tobacco marijuana amphetamine inhalant opium and heroin. The internal consistency was good. (n=55, α=0.86)

The Family Environment Scale (FES) [19], which consists of cohesion and conflict subscale measures of family functioning, There was 18 items questionnaire which measures two dimensions and each subscale has nine items, subscale and standard mean deviation for normal individual base on other investigators' research: cohesion 6.69±2.17, conflict = 3.57±2.18 and distressed individual cohesion= 5.34±2.55, conflict = 4.40±2.45. The Family Environment scale was translated to Thai by the author with a test-retest reliability of the instrument was 0.81.

2.6 Data Collection

Data were collected with pre-tested self- report questionnaires in youth on the first day of training intervention group and control group collected by the research assistant. After 3 months and 6 months, we make an appointment with the target group for the next data collection. The questionnaires were returned in sealed. The completed questionnaires were double entered and validated.

3. STATISTICAL ANALYSES

Data analysis was done using STATA software version 10.0 for frequencies, percentages, means, standard deviations, t-test, proportion test, χ^2 test Number Needed to Harm. (NNH)

4. RESULTS

The socio-demographic characteristics of the respondents are presented in Table 1 There was 969 youth—predominantly single females aged 12-25 years—who volunteered for the study. The mean age of participants was 13.89 and 17.84 years for intervention and control group respectively. The educational level was a secondary school. Most of them did not work and stayed at home.

Table 1 General characteristics of the participants according to the treatment approach

Variables	Intervention n(%)	control n(%)
1.Gender		
Male	94(39.00)	319(43.82)
Female	147(61.00)	409(56.18)
2.Age(years)		
12-15	207(85.89)	269(36.95)
16-19	29(12.03)	228(31.32)
20-25	5(2.07)	231(31.73)
(Mean, SD)	(13.89, 2.13)	(17.48, 3.84)
3.Marital status		
Single	228(94.61)	615(84.48)
Married	13(5.39)	113(15.62)
4.Highest education attainment		
Elementary School	90(37.34)	48(6.59)
Junior High school	121(50.21)	280(38.46)
Senior High school	19(7.88)	286(39.29)
(High)Vocational Certificate	6(2.49)	86(11.81)
Bachelor's degree	5(2.07)	28(3.85)
5.Working Status		
Working	11(4.56)	191(26.24)
Unemployed	230(95.44)	537(73.76)
6. Habitat		
Own house	31(12.86)	96(13.19)
Parental house	193(80.08)	563(77.34)
Rental house	17(7.05)	69(9.48)
7. Marital status of the parents		
Live together	152(63.07)	552(75.82)
Separated	47(19.50)	103(14.15)
Widowed	12(4.98)	42(5.77)
Divorced	30(12.45)	31(4.26)

At 3 months follow-up, 9.54% and 14.97% of drug users were reported in the intervention group and the control group, at 6 months follow up was showed the total substance use was 10.79% in intervention group and 16.21% in control group respectively. The most common of drug use in both groups was alcohol (10.16% in intervention group and 9.13% in control group). (As shown in Table 2)

Table 2 Incidence rate of substance uses

Kind of Substance uses	3mo.		6mo.	
	INT n(%)	CON n(%)	INT n(%)	CON n(%)
Total Recent substance uses	23 (9.54)	109 (14.97)	26 (10.79)	118 (16.21)
Alcohol	22 (9.13)	74 (10.16)	21 (8.71)	85 (11.68)
Tobacco	8 (3.32)	32 (4.40)	9 (3.73)	34 (4.67)
Marijuana	0	1 (0.14)	1 (0.4)	3 (0.4)
Amphetamine	1 (0.41)	1 (0.14)	1 (0.4)	3 (0.41)
inhalant	0	2 (0.27)	1 (0.4)	5 (0.69)
Opium and heroin	0	1 (0.14)	0	3 (0.41)

Abbreviations : INT, Intervention ; CON, control

Comparison of Family Environment subscale: cohesion and conflict, before participating in the program, there was not statistically different. (As shown in Table 3)

Table 3 Baseline characteristics of FES: cohesion and conflict before experimental

Variables	INT	CON	*p*- value
Cohesion	6.64±1.49	6.19±1.40	0.710
Conflict	3.36±1.63	3.27±1.75	0.481

Present Mean±SD., Independent t-test

At 3 months follow up of intervention group program, the result of cohesion and conflict was improved more than the control group. (As shown in Table 4)

Table 4 Comparison between groups after 3 months

Variables	INT	CON	*p*-value
Cohesion	6.86±1.39	6.61±1.40	<0.001
Conflict	3.16±1.66	3.59±1.95	0.001

At 6 months follow up of intervention group program, the result of cohesion and conflict was improved more than the control group. (As shown in Table 5)

Table 5 Comparison between groups after 6 months

Variable	INT	CON	*p*-value
Cohesion	7.04±1.82	6.48±1.50	<0.001
Conflict	2.90±1.47	3.17±1.33	0.003

A comparison with in the intervention group after 6 months, the result of cohesion and conflict were significant. (As shown in Table 6)

Table 6 Comparison with in INT group

Variable	Before	After	*p*-value
Cohesion	6.64±1.49	7.04±1.82	0.008
Conflict	3.36±1.63	2.90±1.47	0.001

A comparison with in the control group after 6 months, the result of cohesion there were significant but the conflict was not significant. (As shown in Table 7)

Table 7 Comparison with in CON group

Variable	Before	After	*p*-value
Cohesion	6.69±1.91	6.48±1.50	0.017
Conflict	3.27±1.75	3.17±1.33	0.219

A comparison between intervention group and control group after 3 months and 6 months showed that the family environment cohesion subscale is increased after 3 months and 6 months there were significant but in control group is convert. (Fig.1)

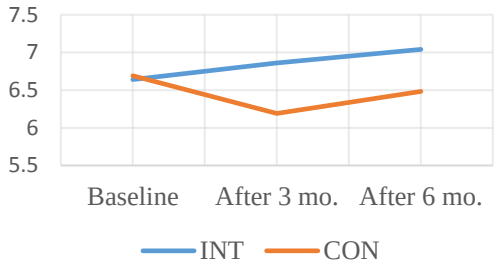

Fig. 1 A comparison of FES cohesion between Intervention and control group after 3 months and 6 months

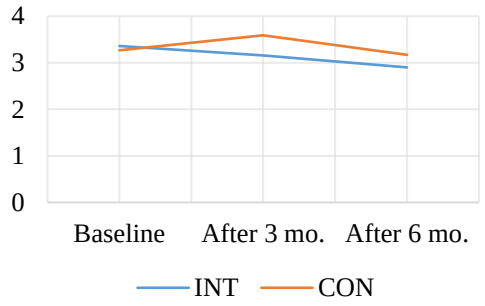

Fig. 2 A comparison of FES conflict between Intervention and control group after 3 months and 6 months

Comparison of the new drug users between the two groups using test of proportions showed that at 3 months follow-up, the proportion of new drug users was significantly lower in the intervention group (mean difference 0.54, 95%CI: 0.009-0.1). However, no significant difference in the proportion of new drug users was found between the two groups at 6 months follow-up. (As shown in Table 8). Absolute risk reduction (ARR) of the intervention for reducing new drug users at both 3 and 6 months was 0.54, the number needed to harm was 18.4. (As shown in Table 9).

Table 8 Proportion of recent drug users on 3 and 6 months follow up

Follow up	Intervention n(IR)	control n(IR)	*p*-value
3months	23(0.095)	109(0.149)	<0.05
6months	3(0.014)	9(0.015)	0.916

Abbreviations: IR, Incidence Rate

Table 9 Number Needed to Harm on 3 and 6 months follow up

Follow up	Substance Abuse n(%)	RR	ARR	NNH
3 months				
Intervention	23(9.54)	0.64	-0.54	18.42
Control	109(14.97)			
6 months				
Intervention	26(10.79)	0.67	-0.54	18.45
Control	118(16.21)			

Abbreviations: RR, Relative Risk; ARR, Absolute Risk Reduction; NNH, Number Needed to Harm

5. DISCUSSION

The study showed that there was substance use among youth in Khon Kaen Province. The incidence of total substance use at 3 months and 6 months assessments was 9.54% and 14.97% respectively. The finding significantly were lower than another study, in which alcohol use was 9.13% and 10.16% at 3 months and tobacco use were 3.32% and 4.40% [20].

The results of this study demonstrated that Training in life skills development and promoting family environment effectively reduced the use of narcotics and drugs in the intervention group albeit with short-term effectiveness in both 3 and 6 months. These findings were in line with a previous meta-analysis which found that three program modalities (social influence, cognitive behavior, life skill) within two program settings (exclusively school-based, school-community-incorporated) were identified as the effective factors to prevent smoking in the youths. Among these factors, knowledge had the highest effect sizes at short-term investigation (< or = 1 year) [21].

The review of the effectiveness of life skill development program to prevent drug use in the youths in Thailand showed that the effective programs share the same characteristics including i) the program consists of integrative theory, ii) good communication process, iii) integrative of multiple aspects of the life skill, iv) consist of knowledge about drugs, v) program duration 6-12 months and vi) emphasize of extracurricular activities [22]. The program in this study was compatible with these attributes since it comprised of providing knowledge about effective communication process, life skill training in multiple aspects, and many activities.

Evidence suggests that the program has been effective in preventing drug abuse among youth through its skills-based interventions because program integrates information delivery and practice in families, schools, and communities (Skills-based programs appear to be effective in deterring early-stage drug use) [23-24]. The current study employed a quasi-experimental design, where the participants in the intervention arm received many modalities including knowledge, skill development according to individual personality, and participation of the subject's family. Thus, our program showed the effectiveness for preventing drug abuse in the youths. Moreover, our current study found that the training in life skills development and promoting family environment could greatly prevent tobacco and alcohol uses rather than other more virulent drugs. Since the youth who used more virulent drugs usually had more complicated socio-economic problems, which may require a more sophisticated method for prevention [25-26].

The strengths of this study include: (a) it was the first to investigate the effectiveness of training in life skills development and promoting a family environment in Thailand. (b) The number of participants was quite large. The limitations of the current study were (a) some of the youths might receive co-intervention information on drug problem management from the school or community, and (b) the 6 months

of follow up period might not represent long-term prevention of drug uses.

6. CONCLUSION

In conclusion, the current study demonstrated the effectiveness of the life skills training and family environment promotion at least 6 months period for prevention of drug uses. The drug use policy in Thailand should be modified to include family training for early prevention, and family skills training, which, herein, yielded better results than a comparable program where only parents are given information about substance abuse.

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