Effect of Life Skills Training on Drug Abuse Preventive Behaviors among University Students

Mahdi Moshki, Tahere Hassanzade[1], Parvaneh Taymoori[2]

Department of Public Health, School of Health, Social Development and Health Promotion Research Centre, Gonabad University of Medical Sciences, Gonabad, Iran, [1]Department of Social Determinants of Health, Kurdistan Research Center for Social Determinants of Health, Kurdistan University of Medical Sciences, Kurdistan, Iran, [2]Department of Public Health, School of Health, Research Center for Social Determinants of Health, Kurdistan University of Medical Sciences, Kurdistan, Iran

Correspondence to:
Dr. Parvaneh Taymoori,
Department of Public Health, School of Health, Research Center for Social Determinants of Health, Kurdistan University of Medical Sciences, Kurdistan, Iran.
E-mail: sdhprc@gmail.com

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ABSTRACT

Background: Drug abuse is now-a-days one of the gravest social harms. Recent years have experienced a drastic rise in drug abuse among school and university students. Thus, the need for special attention to the issue is deemed important. The present study was conducted with the aim of assessing the impact of life skills training on promotion of drug abuse preventive behaviors.

Methods: This field trial experimental study was conducted on 60 students of Gonabad Medical University selected through quota random sampling and assigned randomly into two Intervention and control groups. Data were collected through a questionnaire, including two sections of demographic information and drug abuse preventive behaviors. The questionnaire was first assessed as to its validity and reliability and then administered both before and after educational intervention and also as a follow-up 4 years after intervention – Data were then analyzed using *t*-tests and Chi-square.

Results: Comparison of post-test mean scores of drug abuse preventive behaviors of both groups showed a significant difference ($P < 0.01$) which remained stable 4 years after intervention. There was a significant relationship between father's educational level and drug abuse preventive behaviors ($P < 0.01$).

Conclusions: Life skills' training is effective in the promotion of drug abuse preventive behaviors of university students.

Keywords: Behavior, drug abuse, life, prevention, skill

Original Article

INTRODUCTION

Drug abuse is considered a critical health – related social and economic problem in most countries.[1] In the last three decades, the world has experienced shocking figures expressing drug abuse prevalence in societies, esp. among teenagers and the youth.[2] United Nation's Office of Crime and Drug Abuse Prevention has recently reported 185 million drug consumers world-wide and an increasing treatment demand all over the world.[3] Iranian drug abuse prevention headquarter has estimated 4.5 million opium consumers in Iran by the end of 2004.[4] In a study conducted by

Serajzadeh and Feyzi in 21 Iranian state universities, 5.8% of the interviewed drug consumers claimed to be drug dependent, while 3.1% claimed a high drug dependency, making a total of 8.9% of a drug dependent university students.[5]

Regarding the harmful pharmaceutical, social, legal, health and economic effects of drug abuse, the need for serious preventive action is deemed important.[2] Researchers have suggested different divisions and strategies for drug abuse prevention. One divides drug abuse prevention into three "comprehensive, selective and obligatory" categories.[6] Other preventive strategies include life skills training (LST), information improvement, affective education, social influence and drug abuse resistance education.[7]

Life skills are abilities needed to provide the groundwork for effective stress management and presentation of positive behaviors. These skills enable an individual to accept his social role responsibilities and to face others' demands and expectations and daily interpersonal problems effectively without hurting himself or others.[8] The term "life skills" involves a big class of socio-psychological and interpersonal skills which help an individual to take conscious decisions, communicate effectively, improve his interactive and self-management skills and adopt an active healthy life-style. Life skills can organize personal, interpersonal and environmental actions in a way to lead to better health, which in turn leads to more physical, psychological and social comfort.[9] LST program aimed at drug abuse prevention is a new preventive strategy which primarily focuses on socio-psychological factors leading to drug abuse and mainly emphasizes the promotion of personal and social skills.[10]

This program was first planned by Gilbert and Botvin from Kernel University to prevent smoking abuse among teenagers in 1997 and was then used for alcohol and drug abuse prevention.[11]

Researchers have confirmed the positive influence of LST on drug abuse reduction, effective use of intelligence capacity, furthering self-confidence and ego improvement, prevention of aggressive behaviors and suicide and AIDS prevention. Lots of other investigations have also been conducted on other individual and social problems and their solution through LST.[8] Zollinger *et al*. studied the impact of LST on middle schoolers' knowledge, insight and ability to adopt a healthy life-style. Findings reported a lower rate of smoking among those who attended the program compared with those who refused to attend.[12]

Eisen *et al*. showed a significant difference between pre- and post-test scores of 6239 students. In this study, drug abuse rate among the intervention group was significantly lower than the norm compared to the control group.[13] Another study by Botvin and Griffin claimed the positive effect of LST on addiction prevention.[14] The same Survey tested 4466 students of New York schools for 3 years to investigate the effectiveness of the cognitive-behavioral program of drug abuse prevention. Those who received at least 60% of the intervention program showed a significant drug abuse reduction.[15] Furthermore, Qaderi indicated that training courses could reduce drug abuse tendency and affect addicts' attitude.[16]

One other survey was carried out by Nazarpoor *et al*. on 243 students of Tabriz Medical University to investigate how LST affects an individual's opinion toward drug abuse prevention. Based on the obtained results, 37.74% of the participants showed information increase. Besides, there was a change or rise in knowledge, insight and assertiveness skills rate after attending LST workshops. A significant relationship was also observed between participants' change of attitude toward drug abuse and the rise in social skills due to participation in workshops. Furthermore, a significant relationship was detected between major and gender and social skills promotion rate (A greater change was observed among boys). They concluded that due to its impact on cognitive skills development, attending LST workshops is necessary for all university students.[17]

Results of a survey in Feredrick University in Germany not only demonstrated the preventive effect of LST on non-smokers and non-drinkers, but also its great impact on smokers and drinkers.[18]

Moradi *et al*. investigated the effect of drug abuse resistance and prevention skills training on 181 workers of Asalooyeh Petrochemical Company under two intervention and control groups. Results indicated the positive impact of training on the intervention group's knowledge and insight, drug abuse resistance skills, self-efficacy and decision-making in preventive actions.[19]

In their study, Barati *et al*. showed the positive role of LST in the reduction of abstract norms encouraging

drug abuse among university students. This can prove the positive impact of assertiveness training program on modification of beliefs and abstract norms of the youth and also its great influential role in planning and performance of drug abuse prevention training programs, especially in universities.[20]

The present study was aimed at investigating the effect of LST on promotion of drug abuse preventive behaviors among university students and stability of the results after a 4-year follow-up.

METHOD HOW TO DEVELOP QUESTIONNAIRE FROM THE BEGGINING

This field trial study was conducted using pre- and post-experimental design with the control group. The population under study included all freshmen of Gonabad Universityof Medical Sciences. Samples were 60 university students (50% male and 50% female) entering university in different majors, selected through quota random sampling and assigned randomly into two equal intervention and control groups after matching.

The selection criterion included factors as:

- Being a student of Gonabad Medical University
- Entering the university in the second semester of 2007
- Giving consent and being able to attend workshops.

The intervention group took part in two one-day LST workshops held weekly. Before the first workshop, all participants of both groups were tested using the research instrument. Four years after intervention (in 2011), all examinees except for 9 were tested again using the same instrument (4 from the Intervention group and 5 from the control group ceased to continue with the study due to attrition). To control all the confounding variables all participants were under inspection during this period by researchers.

Data were collected by the use of a researcher made questionnaire including: (a) Demographic information: Age, gender, major, father's and mother's educational level, father's job and habitation. (b) Drug abuse preventive behaviors including: Self-awareness, interactive skills, decisiveness, ability to say "no", problem - solving, ability to resist others' illogical demands, stress management, familiarity with drug abuse side-effects and negative attitude toward drug abuse. This section includes 45 questions, 5 items related to each area.

The questionnaire included the following items:

- Regarding self-awareness, items such as familiarity with the components of self-awareness, self-evaluation skills, knowledge of self-strengths and weaknesses, positive thinking abilities, positive ego development skills, relationship between self-esteem and drug abuse, self-esteem and endurance, features of tolerant people and factors affecting those features were investigated
- The domain of interactive skills investigated issues such as: Knowledge of definition and objectives of communication, components of communication, communication barriers, ineffective interaction, effective listening, interpersonal relations and their importance and ways to improve them
- Regarding decisiveness, saying "no" to others and resistance to others' illogical demands, items such as: Familiarity with basic concepts of assertiveness, interactive styles, types of assertiveness, cognitive barriers to assertiveness, crucial steps to behavior change, steps of assertive behavior, some advice on how to say "no" and some special techniques of assertive behavior were discussed
- Problem - solving domain paid to issues as familiarity with basic concepts in problem - solving, problem - centered coping, emotion-centered coping and steps to the problem - centered coping
- Decision-making skill involved familiarity with decision - making process, factors affecting decision, different styles of decision-making and steps to logical decision - making
- Critical thinking domain studied items as knowledge of basic concepts in critical thinking, components of critical thinking and thinking instruments
- In the stress management domain, factors such as knowledge of the concept of stress and related factors, a model of application of coping strategies, stress symptoms and stress management strategies and their descriptions, self-cooling and adaptive introspections were investigated
- Drug abuse side-effects focused on types of drug, their mechanism and side-effects, risk factors and preventive factors
- Attitude toward drug abuse included items as general attitude toward addiction and drug

abuse, social opinion about addiction, drug abuse as a solution to problems, addiction avoidance and addicts.

The questionnaire was made by the use of related references, texts and expert panel. Eight experts on the field commented on the face and qualitative content validity of the questionnaire. Therefore, its face and qualitative content validity was confirmed. Reliability was obtained 82% by using Cronbach's alpha, which was considered acceptable.

Having taken the required permits, validation of the aims of the study, emphasizing the confidentiality of the results and attracting the trust and consent of the participants, data were collected through distribution of the questionnaires among the target group before and after LST workshops.

As the study was of a pre- and post-test design, the questionnaires were encoded, so the examinees could be tested both before and after workshops and 4 years after educational intervention.

Furthermore, to ensure one-way blindness of the intervention, pre-test and post-test were administered by an experienced test-taker who was unaware of the type of intervention. Workshops were held by four experts including two psychiatrists and two clinical psychology masters who had passed LST courses.

Training techniques included lecturing, discussion, question and answer, role-play, modeling and handing out educational booklets.

Data were analyzed by the use of SPSS-16 (SPSS Inc., Chicago, IL, USA). and descriptive and analytical analyses such as frequency, mean, standard deviation, *t*-tests and Chi-square test ($P = 0.0.5$)

Ethical considerations

Permission to data collection was gained from the Research Ethics Committee of Gonabad University of Medical Sciences. Furthermore, the participants were given written and oral information about the study purpose. Their responses to the questionnaire were anonymous and all respondents participated in the study voluntarily.

RESULTS

The average age of the participants was 19.7 with the standard deviation of 1.8. 51.6% of the samples were between 17 and 19 years and 38.3% were between 20 and 22 years and 10.2% were 23-24. 50% of the participants were studying in Public health, 26.7% in nursing and 23.3% in the operation room and anesthesia.

Regarding father's educational level, 10% had a primary school education, 18.3% middle school education, 35% diploma, 20% AA, 10% BA and 6.7% MA or higher. As to mother's educational level, 13.3% had primary school education, 38.3% middle school education, 30% diploma, 10% AA, 8.3% BA or higher.

Considering father's job, 8.3% were jobless, 33.3% workers and farmers, 26.7% employees and 31.7% were self-employed. Nearly 66.7% of the participants resided in towns (urban) while 33.3% lived in villages (rural) [Table 1].

The independent *t*-test results indicated no significant difference between pre-test and post-test drug abuse preventive behaviors of control and intervention groups before intervention ($P < 0.36$), but a significant difference was observed immediately after intervention ($P < 0.001$). In other words, LST could successfully promote drug abuse preventive behaviors or reduce risk factors leading to drug abuse [Table 2].

Also, paired *t*-test showed no significant difference between the control group's pre- and post-intervention insight toward drug abuse prevention ($P > 0.05$), but regarding the same factor, intervention group showed a significant change before and after intervention ($P < 0.001$), which remained stable in the follow-up test administered after 4 years ($P < 0.01$) [Table 3].

Chi-square test results detected no significant relationship between factors such as gender, age and major with drug abuse preventive behaviors ($P > 0.05$), but demonstrated a significant relationship between father's educational level and promotion of drug abuse preventive behaviors ($P < 0.05$) in a way that father's higher educational level led to participant's more awareness of these behaviors.

Also, participants whose fathers were clerks or employees thought more of tobacco as harmful than those whose fathers were workers or jobless, though the difference was not statistically significant ($P > 0.05$). Those inhabiting towns had more knowledge about decisive behaviors compared to villagers, but this difference wasn't significant either ($P > 0.05$).

DISCUSSION

Results showed that LST could either promote participant's knowledge about drug abuse

preventive behaviors or decrease risk factors leading to drug abuse as a significant post-test increase in the intervention group's drug abuse preventive behaviors mean scores was observed. The findings of this study is in line with the other studies, e.g., Zollinger *et al*.,[12] Botvin and Griffin,[14] Botvin *et al*.,[15] Moradi *et al*.[19] which confirmed the positive impact of LST on promotion of the intervention group's insight, drug abuse resistance skills, self-efficacy and decision-making balance in preventive activities. Also, Barati *et al*. showed the effectiveness of LST on the reduction of abstract norms encouraging drug abuse among university students which can affirm the positive impact of training on modification of beliefs and abstract norms of the youth.[20]

Also, the mentioned factors of this study results show that are directly related to psychological capacity which can be improved through LST.

The findings of this study are also in line with those of Bohler in Feredrick University which demonstrated not only the preventive role of LST among non-smokers and non-drinkers but also its great impact on smokers and drinkers,[18] and Smith *et al*. who also claimed the significant impact of LST on leadership and management skills of the youth.[21]

Findings also confirm the results of the studies by Samari and Laalyphase who asserted that LST can promote one's interactive skills and social acceptability which can in turn affect drug abuse preventive behaviors[22] and Valyany *et al*. who

Table 1: Descriptive data for demographic variables

	Intervention	Control	*P* value
Sex			
Male	15 (50)	15 (50)	>0.05
Female	15 (50)	15 (50)	
Age (years)			
17-19	15 (50)	16 (53.33)	>0.05
20-22	12 (40)	11 (36.67)	
23-24	3 (10)	3 (10)	
Literacy			
Public health	15 (50)	14 (46.6)	>0.05
Nursing	8 (26.7)	8 (26.7)	
Operation room and anesthesia	7 (23.3)	8 (26.7)	
Father's education level			
Primary school	3 (10)	3 (10)	>0.05
Secondary school	5 (18.3)	6 (20)	
Diploma	11 (35)	10 (33.3)	
AA	6 (20)	6 (20)	
BS	3 (10)	3 (10)	
MA and higher	2 (6.7)	2 (6.7)	
Mother's education level			
Primary school	4 (13.3)	4 (13.3)	>0.05
Secondary school	11	22 (38.3)	
Diploma	9 (30)	9 (30)	
AA	3 (10)	3 (10)	
BS	3 (10)	2 (8.3)	
Father's job			
Worker and farmer	10 (33.3)	10 (33.3)	>0.05
Employee	8 (26.7)	8 (26.7)	
Self-employed	10 (33.7)	9 (31.7)	
Jobless	2 (6.7)	3 (10)	
Family residency			
Urban	20 (66.6)	20 (66.6)	>0.05
Rural	10 (33.3)	10 (33.3)	

AA = Associate of Art (Science), BS = Bachelor of Science

Table 2: Comparison of drug abuse preventive behaviors based on independent *t* test before and after intervention and follow-up test administered

	Control	Intervention		*P* value
	Mean (SD)	Mean (SD)	*t*	
Pre-test	6.1 (1.24)	5.8 (1.18)	−0.91	0.36
Post-test	7.7 (1.30)	10.62 (1.18)	10.26	0.0001
Follow-up test	6.9 (1.02)	9.18 (0.98)	3.92	0.02

SD=Standard deviation

Table 3: Comparison of drug abuse preventive behaviors based on paired *t* test before and after intervention and follow-up test administered

	Pre and post-test				Before intervention and follow-up test administered			
	Pre-test Mean (SD)	Post-test Mean (SD)	*t*	*P* value	Pre-test Mean (SD)	Follow-up test Mean (SD)	*t*	*P* value
Intervention	5.8 (1.18)	10.62 (1.18)	6.59	0.0001	5.8 (1.18)	9.18 (0.98)	5.45	0.01
Control	6.1 (1.24)	7.7 (1.30)	2.12	0.06	6.1 (1.24)	6.9 (1.02)	1.01	0.28

SD=Standard deviation

emphasized the importance of LST workshops as they can reduce drug abuse tendency.[23]

The study results indicated that the intervention group's observed pre- and post-intervention difference remained stable even in the follow-up test conducted 4 years after the main treatment. This is in line with the findings of Botvin and Griffin who suggested that their 6-year-long educational program confirms the effectiveness of LST on drug abuse prevention[14] and Nazarpoor *et al*. which claimed a promotion in the participants' knowledge and social skills and also a meaningful increase in the change of outlook toward drug abuse after attending workshops.[17] It seems as if the change in the outlook can in the long run reduce drug abuse tendency.

Our study proved a significant positive relationship between father's educational level and children's knowledge of drug abuse preventive behaviors. This confirms the findings of Babayi that showed students whose parents had a higher academic level had better information about drug abuse.[24] Probably families with higher academic levels have more potential skills and use various techniques to promote their children's insight toward drug abuse. This proves the crucial role parents play in forming a proper insight toward drug abuse and in turn in the formation of drug abuse preventive behaviors in their children.

Our study included some limitations as some samples ceased to go on with the study or were not available for the follow-up test.

CONCLUSIONS

LST can promote interactive, decision-making, problem - solving, critical thinking and stress management skills and lead to more social acceptability, which in turn reduce drug abuse tendency.

It is recommended to plan and perform constant LST workshops as effective tools of drug abuse prevention in universities.

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