

A Social-Cognitive Educational Protocol for Parents with Adolescents at Risk of Substance Use: Impact on Adolescents' Life Skill

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Abstract

Objective: The aim of this study was to instruct social cognitive protocol based on life skills and parenting skills to parents with teenagers at substance use risk and also to investigate its effectiveness among teenagers.

Method: The present study is a quasi-experimental study with a pretest, posttest, and follow-up approach with a group in 3 stages of measurement. The statistical population included 70 adolescents at risk of substance abuse who were selected using the available sampling method. The survey consisted of 40 questions about adolescents' life skills in four subscales of self-control skills, assertiveness and saying no skills, decision-making skills, and problem-solving skills, and the reliability of the entire questionnaire was estimated to be 0.98 using the Cronbach's alpha method. In this study, adolescents were first given a test, and after two weeks, their parents learned the social cognitive protocol over a 12-week period and were asked to impart these skills to their adolescents at home. After that, the adolescents gave the same test after the intervention (posttest). Two months after the posttest, the follow-up test was performed without any training.

Results: Comparison of the mean of the three stages of measurement showed that the effect of the overall life skills score, according to the value of Wilkes Lambda multivariate test (0.666) with degrees of freedom two and 40, can be rejected as a null hypothesis ($P < 0.01$). In addition, in the subscales of decision-making skills (0.781), problem-solving (0.688), and self-control (0.816), the mean score of the participants in the three measurements was simultaneously different; and in the follow-up stage, the scores were significantly different than the pretest. However, in terms of assertiveness and the skill of saying no, the scores did not differ simultaneously in the three measurements (0.986).

Conclusion: These scores show that teaching social cognitive protocol to parents of adolescents who are at risk of substance abuse is effective.

Key words: Adolescent; Addiction; Substance Abuse; Prevention

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Addiction is a condition in which a person naturally weakens the will to control the repetition of actions due to mental or chemical use. Although weakness of will is not a disease in itself, it is considered a disease due to its effects on a person's central nervous system, and this disease causes a recurrence of that behavior by disrupting control over the behavior system. Addiction disrupts the neural circuits of the system, motivation, and memory in the brain, and disruption of these systems in the brain causes biological, physiological, social, and psychological effects. This condition starts from recreational consumption and becomes a habit with increasing the number of times of consumption (1). Nearly 450 000 people lost their lives as a result of drug use in 2015, of which 167 750 were directly due to drug-related disorders. Research on the normal group that use drug shows that the rate of drug use among adults is lower than among young people (1-3). Comparing the age composition of people with substance abuse disorder in this study with the age composition of the general population in 2016 in Iran shows that the percentage of people under 25 years and then older than 45 years is less than this percentage in the general population. The 2 groups of people with substance abuse and the general population are the same. The results of many studies show that the early stages (14-12 years) and the end (17-15 years) of adolescence are very important stages in the beginning of drug use (4, 5). The majority of research indicate that the period between the ages of 12 and the end of 17 is a crucial period to start substance abuse. The peak drug use among youngsters globally is between 18 to 25 years (2). According to the latest Mental Health Survey by the Ministry of Health, the age of onset of tobacco consumption in Iran has reached down to 12 years and the mean age of onset of substance use has reached down to around 16 years (2). Formerly, the only prevention strategy for drug abuse was limited to publication of pamphlets that warned youngsters about the dangers of drugs, which mostly resulted in no change or only a minor change in their behavior. However, nowadays, science has abled us to alter that situation. By means of evidence-based strategies for dealing with families, schools, and local communities, it can be assured that children and adolescents, particularly in the indigent and marginalized groups, will healthily and safely grow into adults. The experience in various countries has demonstrated that given the extremely high costs of acting against drug supply and trafficking, addict treatment and maintenance, substance abuse prevention is highly cost effective. By devoting every dollar to prevention, at least \$10 can be saved on community health and crime prevention (6).

Adolescence is a step in an individual's growth when they are exposed to new ideas and behaviors through the development of relationships with individuals and organizations beyond what they have experienced during their childhood, and it also is the time to assess adult's

roles and responsibilities. Malleability and flexibility of the adolescent's mind are comparable to those during infancy, meaning that interventions in this stage of growth are capable of strengthening or changing the previous experiences (6). The existing research demonstrate that assuming that the disadvantaged, indigents, adults, uneducated, and illiterate are at greater risk of substance abuse, on the one hand, the prevalence of substance abuse in all groups and social classes, especially in the affluent and educated is on the rise; and on the other hand, the pattern of addiction in Iran illustrates that the age of onset of substance use is decreasing and that teenagers and adolescents are more at risk for this complication (1). Other studies also indicate that the ease of access to substance, its growing supply in various forms, and the variety of products manufactured, especially psychotropic drugs are among the most important factors in its prevalence in the society. However, another sociological interpretation regarding the prevalence of substance use can be proposed based on 2 elements, including increased levels of consumption in different classes and segments of the society alongside a decreased age of substance use onset (increased substance consumption among teenagers and adolescents). According to the sociological research and findings, norms and subcultural values and delinquency contributed to substance abuse to a great extent among individuals in the community. In past, endogenous elements derived from families and social groups had pivotal role in the development of high-risk and delinquent behaviors, especially among teenagers and adolescents (2).

Based on the findings of various studies, various factors contribute to teenagers and adolescents' tendency toward substance use, such as sociological and psychological elements, and cultural and ethnic characteristics. Based on Botvin's viewpoint (2000), the probability of inclination toward and consumption of substance is significantly higher among individuals with positive or neutral attitude toward substances. The onset of each substance consumption follows the positive attitude and belief concerning its use. In fact, positive attitudes and beliefs regarding substances expedite the onset of consumption (7, 8). Investigating intermediate variables in 45 studies conducted from 1980 to 1990 that had been assessed in terms of content, method, and effectiveness, Hansen (1992) proposed 12 factors as intermediate variables in substance use (8).

At personal level, personality traits, psychological characteristics, and biological readiness that go beyond teenagers' control may stimulate the desire to consume substances and make them susceptible to the physiological effects resulting from substance use. Of other individual factors low self-esteem, anxiety and stress, impulsivity, depressed mood, poor adaptive skills, dysfunctional social skills, and poor educational skills can be mentioned. Addiction also correlates to how one perceives oneself. It has been illustrated that afflicted

individuals have lower confidence, behave impulsively, and when facing a predicament, they escape instead of confronting and discovering a solution as they underestimate their capabilities and consider themselves already defeated. It can be declared that these people have low self-efficacy (9). Negative attitudes and low commitment to school and university are a risk factor, which is generally accompanied by academic failure, since one cannot justify the role of a student as an efficient and sustainable role. Accordingly, absenteeism and a history of dropout or intention to drop serve as a prediction factor for substance use (10). In contrast, bonding and a sense of belonging to school protects the teenager from substance use and other behavioral problems. According to the findings in a research conducted by Mohammad Khani, the element of bonding to school is the strongest social factor that directly impacts substance use. Hence, as students' sense of belonging to school grows stronger, the amount of substance use declines (11).

Another factor underlying the inclination toward substance abuse is adolescents' lack of knowledge over life skill. Botvin et al (2004) mention the skills of decision-making, coping with anxiety, communication skills, and courage. Teenagers with poor social capabilities may turn to smoking or alcoholism due to social functions. Various evidences support the idea that people with low social competence and skills display the highest rates of substance use and the worst prognosis. Other major risk factors regarding inclination toward substance use include university environments with educational stress and inability to adapt to peers in dormitories, along with a sense of release from parental control and supervision (12).

Family serves as one of the most fundamental effective factors determining off springs' consumption or nonconsumption of substance and drugs. The history of substance use in family is one of the major risk factors. Regarding the substance use by family members, West and Prins (1987, quoted by Miller, Listnig, & Smith, 2001) have stated that children of alcoholic parents are 4 times more at risk of becoming alcoholic when compared to children of nonalcoholic parents. Relative to other kids, children of alcoholic parents are significantly lower in psychological, social, familial/personal abilities and school bonding, and with respect to risk factors in fields of mood, emotions, and thoughts and behaviors are relatively higher. On the other hand, parents' positive attitude toward substance use increases the likelihood of teenagers' willingness to substance use and believing that substance abuse is an antivalue in the family and reduces the probability of off springs consuming drug (13). In a review study by Simone A. Onrust on effective programs in addiction prevention, it was revealed that among various parts of life skills, the best program for teenagers aged from 10 to 15 years is instruction of problem-solving, decision-making, assertiveness, and refusal skills (14). To

converge the aforementioned concepts, the study by Alfgeir L. Kristjansson et al, which had been conducted from 1997 to 2014, can be exploited to achieve this purpose. In a study on primary prevention among high school students, Alfgeir L. Kristjansson et al declared that life skills instruction through family intervention in teenagers' life style change leads to a significant alteration in alcohol and smoking consumption reduction among their offspring (15). In another review paper by Mark J. Van Ryzin et al, the effective factors in a prevention package have been investigated (16).

Self-control is the major core underlying the majority of kids and adolescents' problems. When self-control is viewed as pleasure delay, it becomes evident that the majority of problems root from this inability. For instance, concerning the addiction to substance use, the pleasure of consumption interferes with the long-term goals of drug withdrawal, the desire for gambling, and the long-term benefits for the individual and their family. Impulse control disorders, such as arsonism, robbery, and vandalism, are also indicators of immediate satisfaction and confrontation to its subsequent negative consequences (17).

Problem-solving and decision-making training: Of other interventions that can reduce impulsivity and increase teenager self-control, problem-solving, and cognitive-social decision-making instruction can be named (18). Social problem-solving has been defined as a cognitive-behavioral process for identifying effective solutions for a given problem which individuals may encounter in their everyday life. This process provides a variety of potentially effective responses to the problematic situation and increases the likelihood of selecting the most effective response from these alternatives. According to Di Zorilla's model, real-world problem-solving outcomes are predominantly determined by 2 relatively independent major processes, a tendency to face the problem and problem-solving. The results of various research claim that social adaptation is subject to social problem-solving based thinking. In other words, enriching the social environment in terms of social problem-solving skills can lead to social adaptation (16). There is also evidence indicting people without social skills and with poor decision-making display the worst prognosis and the highest rates of substance use (19).

Instruction of refusal and assertiveness skills which encompasses behaviors which enables individuals to act in accordance to their most important interests, defend themselves without anxiety, express their emotion honestly and easily, avoid other's incorrect expectations, and express refusal to achieve personal rights without jeopardizing others rights. Research has demonstrated that cognitive instruction impacts knowledge assertiveness among individuals at risk of addiction. Moreover, it also considers indirect instruction effective in enhancing life skills (20). According to United Nation's 2013 Document, one of the most effective preventive interventions during youth is promotion of

parenting skills and developing a healthy skill model in teenagers' parents and it can be deduced that promotion of life skills in parents is effective. However, this source also points out that interventions in contradiction to family's internal values or decreasing parent's dominance are not effective (6).

However, since the intervention should aim to change the most dominant behavior determinants for success, the best techniques and structures should be sought. Hence, behavior theories, such as social cognitive theory (SCT) provides a framework for perception of healthy behaviors, which can guide choosing the most dominant determinants (12). The social cognitive theory (SCT) is an interpersonal behavior theory which demonstrate the sociopsychological impacts on behavior and reveals the path to behavioral change strategies. A broad concept of cognitive-social theory is reciprocal determinism that describes the state of permanent interaction between a person's characteristics, their behaviors, and their environment (21).

In another study, the main causes of substance use in adolescents were family lifestyle and addiction in the family, according to which a high percentage of adolescents using drugs have a parent who uses drugs (22, 23).

Based on what have been discussed, it can be concluded that

- 1.The optimal time for preventive intervention is early adolescence.
- 2.Promoting life skills in this target group and empowering their families is among the most prominent elements in decreasing substance abuse, the most prominent life skill elements being self-control, problem-solving, decision-making, assertiveness, and refusal subskills.
- 3.The cognitive-social model is one of the effective techniques for enhancing these skills in this structure which is parents training and its effect on teenagers. Thus, the current study was conducted aiming to instruct a social cognitive protocol to parents with teenagers at risk of addiction and investigating its impact on teenagers' life skills.

Materials and Methods

In this study, instruction of social cognitive protocol to parents with teenagers at risk of addiction and its impact on teenagers' life skills were assessed. The independent variable in this study was social cognition protocol training and the dependent variables were the mean score of all life skills, self-control, decision-making, assertiveness, and refusal skills. To evaluate the effectiveness of trainings, a questionnaire with 40 questions was employed, the validity and reliability of which had been investigated by the researcher and had been proven to be credible (24).

Statistical Population, Sample, and Sampling Method

This was a quasi-experimental study and was conducted with a pretest and posttest approach and a follow-up in 3

stages of measurement without a control group. The diagram as based on Table 1 is as follows:

Table 1. Diagram of the Design

E	y _b	x	y _a
Y _b = Dependent variable before changing the independent variable			
Y _a = Dependent variable after changing the dependent variable			
X = Incorporating the dependent variable			
E = Experimental group			

This was a quasi-experimental study and included a pretest, posttest, and follow-up group. The statistical population included teenagers aged 10 to 15 years at risk of substance abuse residing in the Tehran 15th district. According to the United Nation Office on Drugs and Crime's 2013 Document, people at risk are defined as individuals whose parents are drug-addicted, alongside people in the vicinity of drug addicts or who have had experiences of substance abuse. These people are selected and answered the questionnaires (3). To estimate the sample size, Cochran's formula and diagnostic criteria of individuals at risk are employed. This formula will yield the largest and most conservative value possible, with 0.5 being considered in the present study. Considering the population of the area under intervention which consist of 680 000 people, and according to Iran Drug Control Headquarters (21), which have introduced this district as a high-risk area with highest number of addicts in Tehran, all teenagers of this district were identified as at risk of addiction. With regard to research methodology, 70 participants were eligible to participate in the study. In conformity with the features of the study's statistical population, voluntary availability sampling was utilized. The entrance criteria were as follows:

- 1.Families with teenagers aged 10 to 15 years
- 2.Informed written consent to participate in the study
- 3.Lack of major cognitive and psychiatric disorders among parents and their teenagers

Procedure

Based on the literature review and research background, to properly implement the social cognitive instruction and to develop a more accurate social cognitive protocol in teenagers, these skills and educational content were not instructed directly to them, and instead, the package content was only instructed to their parents and they were asked that through exploiting the instructed concepts, to not only employ the package's concept in their behavior, but also convey them to their children. Hence, two weeks before the initiation of parents' training sessions, the children were given a test on life skills (pretest). After two weeks, the social cognitive protocol training sessions were initiated. The course included 12 sessions, which were instructed to parents

over three months by expert instructors, and one week after completion of protocol instruction to parents, their teenagers were invited to answer the Life Skills Questionnaire again (posttest). Finally, with no intervention, two months after the posttest and four months after pretest, the same teenagers were given the

life skill questionnaires for the third time (follow-up test) to evaluate the impact of the educational package and intervention without instruction at the third stage. It has been summarized in the following table. This description is illustrated in Figure 1.

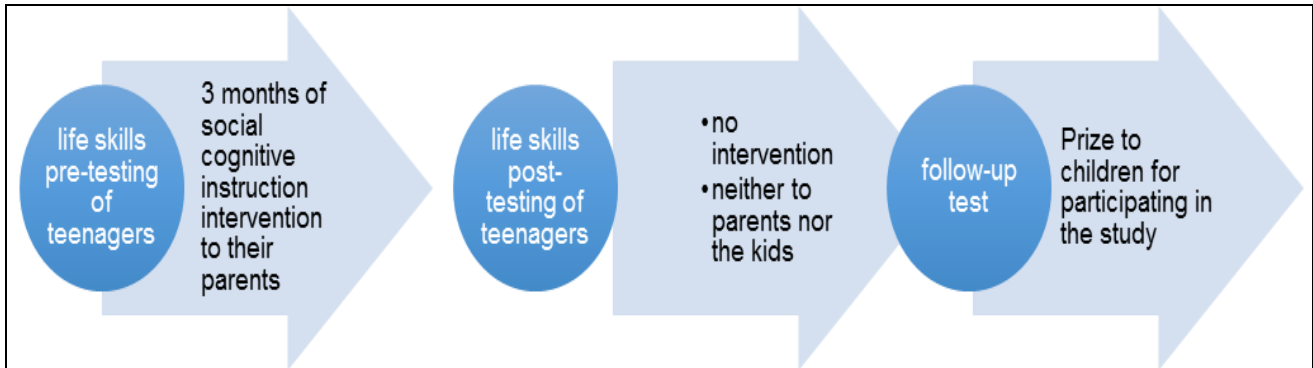


Figure 1. Flowchart of Search Strategy

It should be noted that a gift card of \$9 were given to teenagers to appreciate their participation in answering the questionnaires.

Social-Cognitive Instruction Protocol

In this study, a socio-cognitive instruction package, namely “Healthy Family” compiled by Sotoudeh et al was employed as an intervention tool, which was published as a book in 2016 (24). This package was prepared in 2016 in response to the request of Tehran Municipality Social Services Organization to be implemented in 327 social centers of Tehran and includes chapters on family, 8 emphasized life skills (UNODC), and parenting skills. The validity of this package by qualitative study under the supervision of experts as well as through content analysis, and its results indicated that it is repeatable with content index (0.70) and reliability coefficient ($\alpha = 0.96$).

Research Tools

Adolescent Addiction Prevention Questionnaire that has been validated by Sotoudeh and Aref Nazari and its results have been published (25).

The primary questionnaire of teenagers’ life skills assessment includes 4 subscales: problem-solving skill (10 items), self-control skill (11 items), decision-making skill (9 items), and refusal skill (11 items), which are scored in accordance with a 5-degree Likert scale (highly similar to me = 1 to not similar at all = 5). Using Cronbach’s alpha method, the reliability of the questionnaire and each element individually were estimated to be 0.98, 0.93, 0.95, 0.87, and 0.91, respectively. The reliability of the questionnaires’ criterion was calculated to be 0.67 through running concurrently with the APS scale.

First factor: Laziness and disorder and self-control skills

Second factor: Assertiveness and refusal skill

Third factor: Problem-Solving Skills

Fourth factor: Decision –

Inclusion criteria

1. Age 10 to 15 years
2. Resident of the 15th district of Tehran

Exclusion criteria

1. Having an acute psychiatric illness
2. Reluctance to participate in the program

This research ultimately investigated 3 hypotheses:

First hypothesis: Instruction of the socio-cognitive protocol to parents with teenagers at risk of addiction influences the teenagers’ general life skills.

Second hypothesis: Instruction of socio-cognitive protocol to parents with teenagers at risk of addiction influences the teenagers’ self-control skills.

Third hypothesis: Instruction of socio-cognitive protocol to parents with teenagers at risk of addiction influences the teenagers’ assertiveness and refusal skills.

Fourth hypothesis: Instruction of socio-cognitive protocol to parents with teenagers at risk of addiction influences the teenagers’ decision-making skills.

Fifth hypothesis: Instruction of socio-cognitive protocol to parents with teenagers at risk of addiction influences the teenagers’ problem-solving skills.

Results

In this research, the indicators of central tendency, dispersion, and distribution of scores of different stages of measurement were calculated and adjusted for descriptive statistics (table 2). In the inferential statistics, given the nature of the scale of measurement (the type of distance as well as the type of data collection is based on semi-experimental research and there are intragroup designs with repeated measurements), correlated t test and one-way analysis of variance on intra subjects were conducted for data analysis based on assumptions (tables 2 and 3). Following surveying data through Explorer, the data of participants 33 and 59 were excluded from the analysis because they were out of range. In addition,

regarding the follow-up phase, the performance of the study group concerning the intended variable (socio-cognitive skills training) was compared between the three measurements through the one-way analysis of variance (table 4). It should be noted that due to lack of cooperation of nearly one-third of participants in the follow-up stage (26 individuals, 37%), which is relatively a prevalent incident in a longitudinal (multievent) variable, and also due to the importance of lost or missing data in data analysis, the list removal method was employed. In this method, all individuals

with lost or missed data (in this study, those who had not participated in the follow-up stage and had not answered to life skills questionnaire) were removed from the statistical analysis (26). Therefore, to test hypotheses in intra subject one-way analysis of variance, the data of 42 participants (the data of 2 participants had also been excluded due to being out of range) were utilized.

First hypothesis: The mean score of life skills (overall score) increases in accordance to socio-cognitive protocol instruction.

Table 2. Summary of Statistical Indices of Participants' Scores in Subscales of Life Skills Variable (N=42)

Variables	Stages	M	SD	Mauchly Test's W
Overall Score	Pre-test	107.21	18.47	0.931
	Post-test	121.92	16.26	
	Follow-up	115.45	23.11	
Self-control	Pre-test	37.35	8.03	0.896
	Post-test	41.61	8.38	
	Follow-up	39	10.29	
Refusal skills	Pre-test	12.38	3.68	0.975
	Post-test	13.04	4.94	
	Follow-up	12.69	4.72	
Decision-making skills	Pre-test	26.45	6.16	0.926
	Post-test	30.11	5.09	
	Follow-up	29.23	6.49	
Problem-solving skills	Pre-test	31.02	6.33	0.984
	Post-test	37.14	6.33	
	Follow-up	34.52	8.12	

Table 3. Summary of Multivariate Tests

Hypothesis	Sphericity test F	Ita	Df error	df	F	Values	Tests
1	8.326**	0.334	40	2	10.036**	0.666	Wilk's Lambda
2	3.641*	0.184	40	2	4.524*	0.816	Wilk's Lambda
3	0.284	0.014	40	2	0.279	0.986	Wilk's Lambda
4	5.468**	0.219	40	2	5.620**	0.781	Wilk's Lambda
5	9.386**	0.312	40	2	9.071**	0.688	Wilk's Lambda

**P< 0.01, *P< 0.05

Table 4. Summary of Bonferroni Test

Hypothesis	Groups	Pre-test	Post-test	Follow-up
1	Pre-test		-14.704**	-8.238
	Post-test			6.476
	Follow-up			
2	Pre-test		-4.262*	-1.643
	Post-test			2.619
	Follow-up			

3	Pre-test		
	Post-test		
	Follow-up		
4	Pre-test	** -3.667	-2.786
	Post-test		0.881
	Follow-up		
5	Pre-test	-6.119**	-3.500
	Post-test		2.619
	Follow-up		

**P < 0.01, *P < 0.05

Discussion

According to numerous studies and resources in the field of substance addiction prevention throughout the past decades, it can be concluded that one of the most effective chances to prevent substance addiction is adolescence. Moreover, promotion of life skills is one of the major protective elements against addiction in this target group (12) (14) (3) (6) (12). However, in preventive programs incorrect instructions are sometimes ineffective and may even have an opposite effect (6). Hence, accordingly and based on literature and studies review, this study was conducted aiming to instruct socio-cognitive protocol to parents with teenagers at risk of addiction. Life skills included several subskills, and according to the aforementioned studies, the most effective elements in teenagers' addiction prevention consisted of self-control, assertiveness, refusal, problem-solving, and decision-making skills. Thus, in this research, the overall scores of life skills and the 4 aforementioned sub-skills were assessed 3 times in teenagers whose parents had been instructed regarding the social-preventive package.

First hypothesis: Instruction of socio-cognitive protocol to parents with teenagers at risk of addiction influences the teenagers' general life skills.

Comparing the means of 3 stages demonstrates that pretest's mean was less than posttest's mean ($p < 0.01$), which illustrates the effect of educational package. At the same time, the mean of follow-up scores was less than that of the posttest, but it had a significant difference with that of the pretest, which illustrates the effectiveness of the educational package. Second hypothesis: Instruction of the socio-cognitive protocol to parents with teenagers at risk of addiction influences the teenagers' self-control skills.

Concerning the second hypothesis, self-control skill, which is a major element in life (6, 15, 16) and means delaying pleasure to achieve higher pleasure and reward, is one of the main factors in preventing addiction (17). Thus, people with low self-control have a higher chance of experiencing substance consumption and dealing with pertinent problems. The results of the study revealed that socio-cognitive protocol instruction to parents with teenagers at risk of substance use influences their self-control skill. The means of participants' scores in self-

control skill varied throughout the 3 measurements simultaneously, which indicates an acceptable correlation between socio-cognitive instruction and promotion in self-control skills. However, the mean in pretest was lower than that in posttest; in the follow-up stage, despite reduction in means of scores from the posttest stage due to absence of educational booster, its score was higher than that of pretest, which illustrates the durability of the educational package. Using a variety of evidence-based approaches, numerous empirical studies have discovered the correlation between low self-control and problems associated with alcohol, marijuana, cocaine, and other drugs (15). Other studies have also indicated that low self-control and impulsivity have a positive and meaningful correlation with substance abuse (14, 27). Third hypothesis: Instruction of socio-cognitive protocol to parents with teenagers at risk of addiction influences the teenagers' assertiveness and refusal skills. Assertiveness and refusal skills are among the life skills and they include behaviors which convince individuals to act in accordance with their major interests, defend their rights without anxiety, express their emotions honestly and freely, and refuse other's inappropriate requests and express refusal, so that they can achieve their rights without violating others' rights (20). Undoubtedly, this part of the conclusion is the most fascinating and controversial since the means of participants' scores in refusal skill did not vary throughout the 3 measurements simultaneously. The effect size of difference was extremely weak according to ITA square (0.014), which ultimately demonstrate the meaninglessness of the correlation between socio-cognitive instruction and promotion in self-control skills. Thus, enough evidence does not exist to accept this hypothesis, and it can be concluded that instructing package to parents did not lead to an increase in teenagers' skills and knowledge, which may be justified as follows: (1) first of all, the educational package did not qualify for skill improvement in this element; (2) the other reason underlying this observation can be traced back to Iranian's culture in which formalities are institutionalized and saying no may lead to being excluded from social circles in most cases. To further interpret this finding, Shayli Alirezaei's study published

in the journal of Scientific Research in Culture can be exploited, which assigned more than 10 definitions for formalities in Iran and further elucidates in this regard: Formality is among the deeds, and more precisely, values that have been identified as a pattern in Iran's culture and society and have been taught to individuals by families and educational system through the process of socialization from one generation to another. And ultimately, it will be institutionalized. An Iranian child perfectly learns the rules of formalities and considers it as a value and abides by them. Formality is consecrated as a social value and norm, and individuals in the society consider conformity to it as "respect" which is also rooted in social values. All Iranians, including those who complain about inappropriate formalities, still abide by formalities, since it has been recognized from early childhood as a value principle and it has been instructed to them. Usually, its formation process is very unconscious, meaning that the child learns it through social interaction of their family with others and is blamed by family and others for his/her explicit expression of his/her wishes and for expressing refusal; and in a way, by saying no, he/she violates the customary laws of the society, which can lead to his/her being excluded from peer group (28). (3) The third reason is due to Iranian families' traditional structure and parent-oriented nature (29), and also given the fact that parents should have received the education and then transferred it to their children, parents' tendency to complete transfer of this skill may have subconsciously decrease their authority and their supervision. This interpretation needs more comprehensive studies and based on this subject and acquired results in this study, this part can be expressed as this article's proposals in that scholars in fields of assertiveness and refusal skill should conduct more studies and try more so that more effective approaches and strategies can be employed. Fourth hypothesis: Instruction of the socio-cognitive protocol to parents with teenagers at risk of addiction influences the teenagers' decision-making skills. Individuals in decision-making skill learn how to make correct and logical decisions, how to express themselves, declare their opinions and requests, and to respond decisively to the demands of others (30). According to Enroust and Christie Johnson, one of the most important elements of life skills in preventing teenager's substance abuse is having decision-making skills. Evidence from the fourth hypothesis reveals that socio-cognitive protocol instruction to parents with teenagers at risk of substance abuse affects teenagers' decision-making skills. Therefore, enough evidence exists for its acceptance, meaning that through interaction with their parents and acquisition of decision-making knowledge and observation of parents' decision-making strategy in family environment, teenagers can enhance this skill in themselves. Fifth hypothesis: Instruction of socio-cognitive protocol to parents with teenagers at risk of

addiction influences the teenagers' problem-solving skills.

Promotion of problem-solving skills in teenagers leads to their independent thinking and problem-solving (11). Results of the fifth hypothesis analysis indicate that socio-cognitive protocol instruction to parents with teenagers at risk of substance use and its impact of problem-solving skill have been effective. The means of participants' scores in problem-solving skill vary throughout the 3 measurements simultaneously, which in turn indicates an acceptable correlation between socio-cognitive instruction and promotion in problem-solving skills. Comparison of the means of 3 stages in the above tables revealed that the mean in pretest is lower than that of posttest ($P < 0.01$), and parents have successfully conveyed problem-solving skill to their children following receiving cognate instruction which indicates effectiveness of educational package. However, the difference in the means of pretest and follow-up stages is not significant, despite its high value in follow-up stage and its increase over pretest, which illustrates the durability of the educational package, in that despite absence of educational booster or intervention during posttest and follow-up interval, the skill has decreased but is still higher than that in the follow-up. For possible explanations of above findings and based on Botvin's study, it can be deduced that individuals with problem-solving skills have lower probability of substance addiction due to their ability to provide a description of the limiting or negative factors involved in the problem, a description of the constructive and positive factors in the problem, accurate description of the scope of the problem, and accurate description of the consequences all from the precise description of the problem (31). In a review study, McEvrizen also concluded that problem-solving skill instruction have positive behavioral impacts on reducing the likelihood of alcohol, tobacco, and other drugs consumption (15).

Limitation

In this study the available population for instruction was very low and the target population did not have the necessary cooperation. Another limitation in this study was the lack of adequate access to participants in the long run, and considering that educating parents and examining its impact on children is a long-term matter, more studies should be conducted in this regard.

Conclusion

These scores show that teaching social cognitive protocol to parents of adolescents who are at risk of substance abuse is effective.

Ultimately, in this study, the results of overall scores of life skills alongside 4 elements, which had been expressed as 5 hypotheses, were significant, except assertiveness and refusal skill, which had not been meaningful in neither of stages, meaning that sociocognitive protocol instruction to parents was able to

increase the level and scores of life skills and subskills among teenagers in posttest and prove its efficacy. However, these scores decreased in follow-up stage relative to posttest, and since they were still higher than pretest stage, but it indicated the durability of educational package, as the skill was decreased but it was still higher than that in follow-up.

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Conflict of Interest

None.

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