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The Effectiveness of Emotional Regulation and Coping Therapy Training on Life Style of Adolescent at Risk of Drug Abuse

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Abstract

Objectives: The purpose of this study was to determine the effectiveness of emotional regulation and coping therapy training on life style of adolescent at risk of drug abuse**.**

Method: The present study was a quasi-experimental research with two experimental and one control groups. The statistical population of this study consisted of all 577 boy students in secondary high schools (the second period) in Kish Island, in 2017-18, and finally 45 students were selected based on entry criteria and randomly divided to 3 groups (emotional regulation training group, coping therapy training group, and control group). The research tool was WHO quality of life questionnaire. Data were analyzed using covariance analysis.

Results: The results showed that emotional regulation and coping therapy training programs had a positive effect on life style and these changes have been steady in the follow-up stages.

Conclusion: It is concluded that emotion regulation and coping therapy programs can be used to improve the quality of life in adolescents.

Keywords: Emotional regulation, Coping therapy, Life style, Drug abuse.

Introduction

Today we see the bitter fact that narcotics and psychotropic weapons have been seriously used by the enemies of the revolution as a weapon of soft war, in a way that by promoting and using it, they are seeking for the identity crisis and undermining the will and determination of people, collapsing the beliefs and values of society, and weakening the roots of old traditions such as religion and social cohesion (Ahqar, 2015).

Drug dependence is a serious threat to the health of individuals. Not only does this disrupt the individual's life, but also it creates many disadvantages for the family and society. In fact, addiction is one of the most important social damages that causes structural changes in the economic, social, political and cultural system of a community (Ghobadzadeh, Masoudi, Mohammadkhani, & Hassani, 2016). In the meantime, adolescents in the country are of great importance. Adolescence refers to the transition from child to adulthood. This period does not have a specific age limit. It starts from the age of 12, and continues until the last years of the second decade of life, when the physical growth is completed more or less. In this period, the adolescents reach sexual maturity, establish their individual identity apart from their family identity, and face the question of how to secure their own livelihoods (Qanbaritalab

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et al., 2015).

Adolescents are vulnerable because of their special characteristics. Dynamic adolescents search everywhere. If ways having pleasure and ignorance open up in their path, they will be quickly absorbed in them. Even adolescents who are clean and competent may be curious to deviate in ways. Therefore, it is construed that the potentials for social deviance and delinquency exist in adolescents, and if a suitable environment is lacking for adolescents, they will be left astray and get trapped in social harm, such as addiction (Raja'i, 2015).

The pattern of substance abuse behaviors among adolescents is unique. For example, smoking begins at the age of 12, alcohol consumption at 12.6, and taking drugs at 14.4 years and it increases over time and may involve multiple drugs. With the advent of newer drugs or the prevalence of previously discovered ones (such as LSD), drug abuse among adolescents may continue after high school to the young age (Ahqar, 2015). Epidemiological studies conducted in 30 European countries showed that 50% of students aged 15-16 years had experienced alcohol and addictive substance use (Rahimi Movaghar, SahimiIzadian & Younesian, 2006). In Oman, alcohol use was reported in 3.4% of students and drug use in 8% (Jafar, Afifi, Ajami & Alhoishi, 2006), and in Taiwan 6.6% of the students aged 16-18 years have used drugs (Bahr, Hoffmann & Xiaoyan, 2005). In addition, 12.7%, 2%, and 59% of Tabriz students experienced alcohol, psychotropic drugs, and cigarette, respectively (Ayatollahi, Mohammadpour Asl, & Rajeeifard, 2004).

Studies have shown that proper preventive interventions can significantly reduce the risk of high-risk behaviors such as addiction, suicide, and adolescent running away from home, before and after action. To develop appropriate preventive measures, many studies have been done to identify the personality and cognitive characteristics of these individuals as well as individual and environmental risk factors. In most of these studies, it has been found that these individuals have emotional qualities and coping styles that can be a major risk factor for them. These features include the lack of self-assertiveness, lack of problem solving skills, frustration, positive attitude toward risk, lack of control over excitement and lack of proper communication with others. Scott & calam (1987) believe that these characteristics make a person who has a negative opinion about himself unable to find suitable solutions to his problems, because he is not related to others, does not use their guidance, considers the problem as unsolvable, has no hope for the future and finally, concludes that suicide, running away and addiction are the most appropriate solution to these problems. Various studies have suggested that cognitive-behavioral therapy with the focus on skills training can be useful for adolescents in this regards (Abdallahpour, 2011).

Despite the various personal and social harmful effects of substance abuse, it is natural that this matter is one of the research interests in the area of mental health in societies in terms of the recognition, prevention and timely treatment of drug abuse. This issue is more important in the adolescents and young people's population, because first of all, this population of the country is in fact the main sources of society in the production of science and technology, and in terms of human resources, they are the foundation of the progress, advancement and empowerment of any society. Secondly, the young age, due to the specific physical and psychological characteristics of this period, is considered to be the riskiest period for tendency towards and affliction by drug abuse. Therefore, it is natural that addiction inflicts the most damage on society by the depredation of young, active, efficient, and often educated forces (Botvin, 2005).

Emotion regulation is an essential and important motivation for substance use. In fact, drug users often attribute their intake to the relaxation effect

of the substance. Research also shows that tobacco consumption is more likely to occur when people are angry, anxious, sad, or distressed (Berking et al., 2008). When an individual is under pressure to consume drugs, managing emotions reduces the risk of abuse. The ability to manage emotions makes it possible for an individual to use appropriate emotional regulation strategies in situations where the risk of substance abuse is high. High emotional regulation causes to predict the wishes of others and perceives the unwanted pressure of others, and as a result, they exhibit greater resistance toward drug abuse (Mehrabizadeh et al., 2013).

People with low distress tolerance firstly regard the excitement as unbearable and cannot cope with their affliction and distress, and secondly, they do not accept the existence of the emotion and they feel shame and embarrassment because they underestimate their coping abilities with emotions. The characteristic of those with low distress tolerance is their efforts to avoid negative emotions and to immediately relief negative emotions that have been experienced (Lazarus, 1991, quoted from Ahdi et al., 1396).

The difficulty in managing emotions can identify the vulnerability to addiction. In fact, in every mental disorder, there is a problem with emotion and emotion management (Gross & Jazaieri, 2014). Persons with difficulty in regulating excitement seem to be incapable of managing their own different emotions, and settle down emotions with higher levels of inappropriate behaviors, including addiction. The difficulty in managing emotions is due to weaker performance that increases the risk of drug abuse, but it may be interferable (Lutz J, Gross RT, Vargovich AM, 2018).

One of the main variables used in this research that is assumed to reduce the vulnerability of at risk adolescents is emotional regulation. Theorists and researchers argue that emotional regulation is involved in the maintenance and growth of drug use. The findings by Pierro, Benzi and Madeddu (2015), Karagoz and Dag (2015), and Esmailinasab, Andamikhoshk, Azarmey and Samarrokhi (2014) confirm that there is a relationship between emotion strategies regulation and drug abuse disorder. Grass (2013) defined the emotion setting as “which emotions, where and when to have, and how to experience and express them”. The model of emotional regulation process (Grass, 1998) classifies emotional regulation strategies as they influence the process during the assessment of potential situations or during the adjustment of response tendencies. In this research, we are trying to find out how much this model will affect our variables. Low levels of self-control skills, high levels of sensation seeking and excitement are among the most important factors in predicting substance use in adolescents. People who cannot harness their excitements are more likely to be consuming the substance permanently (Ahadi & Jalali, 2015).

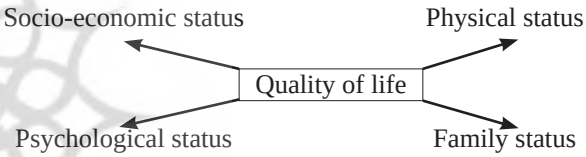
The role of coping styles in choosing a drug, dealing approach, and quality of life are among the other variables considered in this study. Coping strategies represent the cognitive, emotional and behavioral efforts of a person to manage the specific internal and external situations (Lazarus, 1999, quoted by Croeson, 2013). Coping skill is a constructive material of substance abuse that psychology of health also attaches great importance to it in physical and mental health and considers it the most extensive subject of study in contemporary psychology and one of the most important psychological and social factors, which is the interface between stress and illness (Sammerfiled & McCare, 2000, quoted by Alaie, 2014). Folkman and Lazarus (1985) consider coping as a complex process that changes with respect to the assessments that a person has from the stressful position and pressures, and includes active-cognitive behavioral activities of the individual. Researchers believe that most people prefer to use special coping methods in stressful

situations, which in fact the total of these strategies comprise the individual's coping style (Hamid, 2011). Different studies in the component of health psychology have shown that stress, anxiety and such factors affect the quality of life of a person (Michel, 2006, quoted by Aghayossefi, 2012). The more resources people have to deal with, the less likely they are to be in situations in which they are vulnerable. In order to cope with stressful situations, we not only need to be familiar with a variety of coping strategies, but we also need some kind of exercise in order to be able to experience more positive emotions in the same situations instead of using unsuccessful habitual strategies and creating high negative emotions. The variables that affect the development, continuity and treatment of addiction are numerous and different. Clinical research has introduced several variables as predisposing in the field of addiction. One of these variables is the quality of life, which according to the WHO, is the perception of individuals from their position of life in the context of a value system culture that is completely personal and not visible to others and is based on understanding individuals from different aspects of their lives (Bonomi Colleagues, 2000). There is a general agreement among researchers that the quality of life structure consists of objective factors (physical, psycho-social functions) and mental factors (mental well-being). Subjective factors emphasize the satisfaction of life, while objective factors are more focused on material needs and participation in interpersonal activities and relationships (Lambert & Naber, 2004). Objective indicators include levels of literacy, income level, working conditions, marital status, security, social status, and economic production that can be analyzed individually or combined in determining quality of life. The mental indices are based on the assessment and perception of the level of satisfaction, happiness and hope, and so on. In fact, objective indicators in the best case offer the opportunities and facilities for improving the quality of life, but they cannot provide it alone (Castanza, Fisher, & Alley, 2007).

According to Oliver et al. (1997), the determinants of the quality of life are three-fold:

1. Individual characteristics including demographic variables,
2. The objective indicators of the quality of life, which are environmental conditions and the variables related to general welfare, social health, mobility, culture and religion, and natural environment,
3. Subjective indicators that are described with concepts such as a sense of satisfaction with life, well-being, physical and mental affection, and happiness.

Franz quoted from Ghaffari (1391), described the relationship between factors related to the quality of life in the form of a diagram.



As the diagram shows, these four variables can influence the quality of life, independently or in conjunction with each other. An individual's understanding of the quality of his life can also affect any of the mentioned variables. The Center for Quality of Life Studies uses modalities and tactics that are considered to measure both objective and mental aspects of quality-of-life based on a definition of life that takes both the surface and depth of life at the same time, and in addition to paying attention to the situation of a person in terms of material wealth and social and health base, it comprises the meaning of these conditions for the person and the happy feelings and satisfying life. From Kalman's point of view, one can say that there is an excellent quality of life when the hopes of a person are in line with his experiences. The opposite is also true: low quality of life is when hopes do not match the experiences and

expectations. In other words, Kalman's claim is that lifestyle improves whenever the person reaches his wishes. However, this does not mean that personal hopes and aspirations become initially positive and completed. Kalman points out that the goals created by the person must be realistic. When it comes to realizing the aspirations and encouraging one to develop and grow in other ways, the gap between hope and achievement will be greatly reduced. Therefore, according to Kalman's view, one can truly improve the lifestyle of individuals by opposing wishes, and sometimes it is necessary to eliminate some aspirations to reduce the distance between what is experienced and what is expected (Zandi, 2003).

Health-related quality of life is an important indicator in assessing health interventions and treatments, and can be used to allocate health resources, identify and prioritize health related and unexpected problems, as well as decision making and monitoring the changes in people's health and their response to interventions. Since the promotion of the health of children and adolescents must take into account factors that affect their performance and well-being, the assessment of health-related quality of life in all children and adolescents that are at risk or normal and subject to any socio-cultural distinction is required (Quitmann, Rohenkohl, & Bullinger, 2013). The quality of life is a relative concept more than anything else, and there is no universal criterion to define and measure it; it is a concept that is heavily influenced by time and space. The factors affecting the quality of life vary depending on the time period, geographical location and cultural conditions. Excitement and type of coping with problems are among the factors that play a decisive role in people's feelings about their own quality of life. In this research, we try to study the relationship between emotional regulation training and coping therapy with the quality of life of adolescents at risk. Epidemiologic studies indicate that smoking, alcohol and other substances have increased significantly in recent decades among teenagers in different societies (Dashti, 2013).

According to the National Drug Control Headquarters, 14.48% of the country's students currently use at least one of the narcotics (Ahqar, 2015). Therefore, it is necessary to study the effective factors in adolescent tendency toward high-risk behaviors and taking preventative measures especially in adolescents. Since the island of Kish has unique characteristics, including the combination of different cultures from all over the country, and also receives tourists from inside and outside of the country; it requires a special examination and interventions. Considering the vulnerability of adolescents to substance abuse and the importance of drug attitudes toward drug use in adolescents, the present study seeks to positively change the quality of life of adolescents by conducting emotional regulation and coping therapy interventions. Therefore, due to the lack of research in this field, the present study aimed to investigate the effectiveness of emotional regulation training and coping therapy on the quality of life of adolescents at risk of substance abuse.

Method

Population, sample and sampling method

The present study is intended to be a part of applied research and is, based on the data collection method, a quasi-experimental research with two experimental groups and one control group. The statistical population in this study was all second-grade boy students in Kish Island, which comprised 577 students in the academic year of 2017-18. The participants were 45 students who were selected based on inclusion criteria and then, according to the research objectives and giving consent to attend the study, they were randomly assigned to 3 groups (two experimental and one control groups). Inclusion criteria were being at risk of substance abuse according to "the risk factors and

protective factors for alcohol abuse, smoking and other material abuse" questionnaire, the age range of adolescence, and being male. Exclusion criteria included absences of more than two sessions. First, a questionnaire on the risk factors and protective factors for alcohol, cigarette and other materials was performed for 230 students selected by stratified random sampling from all high schools in Kish. In the implementation phase, in order to feel safe and correctly answer the questions, students were ensured that all participation was on voluntary basis with total anonymity, so the presence of each school teacher and school attendant was prevented from responding to the questionnaire. In addition, explaining the importance of the results of this research, students were asked to read questions carefully and choose an answer that was in line with their real feelings, not an answer that was accepted by others.

Tool

1. WHOQOL Quality of Life Questionnaire with 26 items (short version):

The World Health Organization quality of life was a plan that was implemented for the first time in 1991. The goal of this project was to create an international and non-culturally relevant tool for assessing the quality of life of individuals. This tool (questionnaire) evaluates individuals' perceptions of value and cultural systems as well as their personal goals, standards and concerns, and WHOQOL are tools that are used in a number of centers around the world and therefore are widely tested (World Health Organization, 1993). The short version contains 26 items from the 100 item version of the questionnaire. The questionnaire measures four broad areas: physical health, psychological health, social relationships, and the environment. In addition, this questionnaire can also assess general health. The items of the questionnaire are also evaluated on a 5-point Likert scale. A higher score indicates a better quality of life. In examining the short version of the questionnaire, it was shown that the score in all 4 areas were very similar to the long version. This similarity has been reported to be up to 95% (Scountington et al., 2004). The research done on the psychometric characteristics of the short form of the WHOQOL questionnaire reflects an appropriate differential validity, content validity, internal reliability (Cronbach's alpha: physical health 0.8, psychological health 0.76, social relationships 0.66 and the environment 0.8) and the TEST-RETEST reliability (WHOQOL, 1998: Scountington et al., 2004).

2. The risk factors and protective factors for alcohol abuse, smoking and other material abuse questionnaire

The risk factors and protective factors questionnaire was made based on similar tools in the area of risk and protective factors measurement, including the "Adolescent Care Societies" Questionnaire (Pollard et al., 1996), "The Indicator of Individual Protective Factors" (Springerfilips, 1995), "Resistance Assessment of Healthy children" (Constantin et al., 1999), the "Utah University's Center for Social Studies Questionnaire" (1998), and the drug profiles comparison scale (Patricia et al., 2009). This questionnaire has been standardized in the national level by Mohammad Khani (2005-2012) on 3000 middle and high school students (aged 13 to 18). The questionnaire consisted of 86 items in four areas: individual, family, school and social contexts, and 12 subscales (drug attitude, disappointment, social skills, sensation seeking, impulsivity, anxiety sensitivity, family conflicts, parents' attitude to drugs, family monitoring, social disorder, school commitment, school/psychological/social environment). The internal consistency of the entire questionnaire was obtained 0.92 based on Cronbach's Alpha formula. Comparison of differential validity of the questionnaire by comparing students with drug and non-drug users showed that this scale can distinguish between

these two groups and has acceptable differential validity. Also, the validity of the construct of the questionnaire confirmed by verifiable and exploratory factor analysis method showed that the questionnaire is theoretically consistent with the theoretical predictive models of drug use and has good structure validity. In the assessment of structural validity of the questionnaire using a confirmatory and exploratory factor analysis with VARIMAX rotation, the 12 main factors in the questionnaire of risk factors and protective factors have been identified: 1. Attitudes toward drug use, 2. Disappointment, 3. Lack of social skills, 4. Sensation seeking, 5. Impulsivity, 6. Sensitivity to anxiety, 7. Family conflicts, 8. Parent's positive attitude to drugs, 9. Lack of family monitoring, 10. Disruption of the social environment, 11. Failure to feel obliged to school, 12. Inappropriate school psychosocial space (Mohammad Khani, 2012). This questionnaire was used to screen primary students at risk of substance use in adolescents in the sample population.

Implementation process

First, the questionnaire of risk and protective factors for alcohol abuse, smoking and other drug abuse was given to 230 students selected through stratified random sampling from all high schools in Kish. In the implementation phase, in order to feel safe and answer the questions correctly, the presence of each school teacher and school attendant was prevented in the place of responding to the questionnaire. While explaining the importance of the results of this research, students were asked to read the questions carefully and select an answer that is in line with their real feelings, not an answer that is accepted by others. Then, from students who were identified at risk (49 people), 45 individuals were randomly selected and divided into three groups (two experimental and one control group). The experimental groups participated in the training program, but the control group did not receive any training. Group meetings were held two days a week in the Mobin high school of Persian Gulf, Kish Island. In general, the structure of the training sessions was as follows: reviewing the assignments of the previous session and answering questions, teaching the session topics, doing the exercises, answering questions, summarizing and concluding, determining the next session assignments, and feedback from each person on the meeting. The experimental group underwent coping therapy (Aghayousefi's coping-therapy protocol) (for 10 sessions, 18 hours).

Concurrent with the first experimental group, the second experimental group was trained in emotion regulation (Grass emotion regulation protocol) (10 sessions, 18 hours).

After intervention, post-test was performed and after that, participants responded to the

Table 1: Aghayousefi's coping therapy training protocol

• At the first session, the etiology, semiotics, and pathology of substance abuse were explained to students in order to become familiar with the logic and purpose of treatment.
• In the second and third sessions, four strategies of coping therapy, including confrontation, avoidance, self-restraint and social support, were taught.
• In the fifth and sixth session, while answering questions created for students in order to eliminate the ambiguity of the strategies learned in the previous session, four other strategies, i.e. escape and avoidance, accepting responsibility, problem-solving and (positive) re-evaluation, were taught.
• At the seventh session, after solving the problem and redefining the strategies, students were asked to indicate how their lessons were learned during the week, and an explanation was given as to whether there was a proper coping in every problem.
• At the eighth to tenth sessions, each session paid attention to the weekly experiences of the students and reviewed each of the counterparts and emphasized that in each experiment, a positive re-evaluation should be considered.

Table 2: Grass emotion regulation protocol

• At the first session, etiology, semiotics and pathology of substance abuse were described to students to get familiar with the logic and purpose of the treatment.
• In the second session, with the goal of providing emotional education, an experience was selected by students' choice. These experiences are categorized in several dimensions: What was the trigger for this emotional state? Which certain physical changes in you did this particular event lead to the occurrence of the action? What changes were made to your face status? And what was your behavior as a result of that emotional state?
• In the third session on the functioning of emotions in the process of human adaptation and their benefits, the role of excitement in establishing relationships with others and influencing them as well as organizing and stimulating human behavior among the members was discussed and examples of their real experiences were presented. Then, the workspace was designed so that the members were in an emotional state and after experiencing any excitement, they could complete the response to that specific emotion section.
• At the fourth and fifth sessions, with the aim of creating a change in the situation which incites the emotion, members acknowledged first and foremost the desire to avoid confrontation with negative emotions, and accepted the role of this avoidance and isolation in increasing negative excitement. Then, they were taught problem solving skills and interpersonal skills (conversation, self-expression, and conflict resolution).
• In the sixth session, with the goal of teaching attention change skills, in the discussion of emotion regulation skills, the model of James Grass's thriller process was introduced to the members and discussed with the views of the stages of emotion regulation.
• At the seventh session, the purpose of changing cognitive assessments was to discuss the identification of false evaluations and their effects on emotional states.
• At the eighth and ninth sessions, with the goal of changing the emotional and physical outcomes of the excitement, the encounter was made, that is, the creation of emotional states at the group session.

questionnaire questions after a two months' follow-up period and the data were analyzed by repeated measure of single-variable covariance analysis.

Results

Based on demographic information, the mean age of the participants in the first experimental group (emotion regulation) was 17.87, in the second experimental group (coping therapy training) was 17.40, and in the control group was 17.62. It is worth noting that the effect size of the intervention on the effect level of intervention on the dependent variable was 41%. The descriptive findings (mean and standard deviation) derived from these groups are shown in table 3.

Table 3 shows the mean changes in dependent variables in the experimental groups after the training period. In other words, the experimental group reported better conditions after intervention. However, the control group does not show significant changes in almost all variables in the pre-test, post-test and follow-up stages. In order to examine the significance of these changes, inferential statistics are presented.

To compare the quality of life in groups and stages, a single-variable covariance test was used with repeated measurements, the results of which are presented in the following table.

The results of the above table showed that the mean of post-test quality of life scores improved after the removal of the effect of pre-test scores in the research groups (p=0.02). Bonferroni post hoc test was used for pairwise comparison of the groups.

The results of table 5 showed that after removing the effect of pre-test scores, the mean of quality of life in the two groups did not differ significantly between the two groups (P= 0.10), which suggests that the emotion regulation educational program does not affect the quality of life. However, the mean of quality of life in the two coping and control groups was significantly

Table 3: Descriptive statistics of variables depending on stage and group

		Emotion regulation training group		Coping therapy group		Control group	
Dependent variable	**Stage**	**Mean**	**SD**	**Mean**	**SD**	**Mean**	**SD**
Quality of life	Pre-test	83.40	15.60	83.40	14.00	81.27	10.92
	Post-test	91.27	10.12	94.33	11.98	83.00	10.43
	Follow-up	86.27	6.39	86.47	12.88	83.47	10.47
Physical	Pre-test	26.00	4.02	26.07	4.01	27.40	2.32
	Post-test	28.93	2.43	29.20	3.51	27.73	2.09
	Follow-up	31.00	1.93	29.07	4.15	28.73	2.34
Psychological	Pre-test	19.93	5.12	18.07	5.68	18.00	3.05
	Post-test	22.27	2.89	22.20	5.05	17.60	3.02
	Follow-up	20.27	2.09	21.67	7.72	17.47	3.20
Social	Pre-test	9.73	2.84	9.40	2.44	8.67	1.29
	Post-test	11.33	2.77	10.67	2.35	9.00	1.36
	Follow-up	9.33	0.9	9.8	1.61	9.13	1.30
Environmental	Pre-test	27.73	5.99	29.93	4.45	26.47	4.52
	Post-test	28.73	5.22	32.13	4.29	26.60	4.48
	Follow-up	25.67	2.47	25.93	4.43	26.33	4.01

SD: Standard deviation

Table 4: Testing effect results of quality of life means between experimental and control groups

Dependent variable	**Source**	**Type III sums of squares**	**Degree of freedom**	**F**	**Significance**
Quality of life	Pre-test	3318.47	1	45.28	0.001
	Group	3004.90	2	4.18	0.02

Table 5: Pairwise comparison of the average quality of life between research groups in stages

Variable	**Stage**	**Group I**	**Group J**	**Difference (I-J)**	**SE**	**Significance**
Quality of life	Post-test	Emotion regulation	Coping therapy	-1.06	2.2	0.10
			Control	4.5	2.2	0.10
		Coping therapy	Control	6.18	2.2	0.02
	Follow-up	Emotion regulation	Coping therapy	-0.2	3.5	0.10
			Control	2.21	3.5	0.50
		Coping therapy	Control	-2.21	3.5	0.50

SE: Standard error

different (P= 0.02), and this, with regard to the difference between the mean of coping and control groups, showed a positive effect of coping-therapy on quality of life. Also, there is no significant difference between the efficacy of emotional regulation training and coping therapy training on the quality of life of adolescent boys in the risk of drug abuse (P= 0.10). After removing the effect of pre-test scores, the mean of life quality (follow-up) variables was not significantly different between the two experimental groups (emotion regulation and coping therapy) and control (P <0.05), which suggests no effect for the emotion regulation program and coping-therapy training on the quality of life variable up to the follow-up stage.

Assessing the change between quality of life variables over time and stages of tests

The findings of table 6 show a significant

Table 6: Pairwise comparison between the means of post-test and follow-up

Variable	Stage I	Stage J	Difference (I-J)	SE	Significance
Emotion regulation	Post-test	Follow-up	5	2.1	0.03
Coping therapy	Post-test	Follow-up	7.8	3.6	0.04
Control	Post-test	Follow-up	-0.4	2.6	0.80

difference between the mean quality of life of the post-test and follow up stages in the emotion regulation group (P= 0.03). Also, there is a significant difference between the mean of quality of life in the post-test and retention stages in the coping therapy group (P= 0.04). Therefore, it can be concluded that the results of the emotional regulation and coping therapy group have been reduced in the follow-up phase but there is no significant change in the control group.

Investigating the subscales of quality of life in research groups

A multivariate covariance test with repeated measurements was used to compare the dimensions of quality of life in the groups and stages of the study.

The results showed that there is a significant difference between the mean of quality of life subscales in the research groups after the elimination of pretest (p <0.001, p = 72, p = 8, and F = 1.3 And 525.0 = Pillai's Trace).

The results of Table 8 show that in the post-test stage, the mean of the psychological domain for the two experimental groups (coping and emotion regulation) and control group are significantly different (P <0.05), which indicates the positive effect of training program on emotion regulation and coping therapy on the psychological domain, but there is no significant relation between emotion regulation effect and coping training on the psychological domain of quality of life (P=0.1). On the other hand, the results show that there is no significant difference between the mean of other subscales of quality of life in the research groups in the post-test. Although the significance level for the subscale of social domain is 0.03 between the two coping and control groups, based on Bonferroni's correction, this level of significance is not suitable for the four subscales simultaneously, and this difference is due to the first type error or alpha error.

Also, the findings show that there is no significant difference between the mean of all aspects of quality of life in the follow up phase in the research groups (P <0.05). This suggests that the emotional regulation and coping therapy training are not effective on the subscales of quality of life until the follow up stage.

Investigating the variation in the means of domains of quality of life variable over time and test stages

The findings of Table 9 show that all subscales of quality of life in the emotion regulation group

Table 7: The results of covariance analysis to determine the difference between the groups in the subscales of quality of life

Test	Amount	F	Degree of freedom of theory	Degree of freedom of error	Level of significance
Pillai's Trace	0.52	3.1	8	72	0.001
Wilks Lambda	0.51	3.4	8	70	0.001
Hotelling's Trace	0.89	3.7	8	68	0.001
Roy's largest root	0.81	7.2	8	36	0.001

Table 8: Pairwise comparison of the average of the quality of life domains between the research groups in the stages

Stage	Variable	Group I	Group J	Difference (I-J)	Standard Error	Significance
Post-test	Physical domain	Emotion regulation	Coping training	0.5	0.7	0.1
			Control	1.8	0.7	0.05
		Coping training	Control	1.31	0.7	0.3
	Psychological domain	Emotion regulation	Coping training	-0.9	1.03	0.1
			Control	3.28	1.03	0.009
		Coping training	Control	4.18	1.09	0.001
	Social domain	Emotion regulation	Coping training	-0.18	0.4	0.1
			Control	0.96	0.4	0.06
		Coping training	Control	1.15	0.4	0.03
	Environmental domain	Emotion regulation	Coping training	-1.19	1.05	0.8
			Control	-0.11	1.05	0.1
		Coping training	Control	1.07	1.11	0.1
Follow-up	Physical domain	Emotion regulation	Coping training	1.34	1.16	0.7
			Control	1.85	1.16	0.3
		Coping training	Control	0.51	1.22	1
	Psychological domain	Emotion regulation	Coping training	-0.67	2.03	1
			Control	2.65	2.03	0.5
		Coping training	Control	-3.32	2.11	0.3
	Social domain	Emotion regulation	Coping training	-0.81	0.5	0.3
			Control	0.16	0.5	0.1
		Coping training	Control	0.97	0.5	0.2
	Environmental domain	Emotion regulation	Coping training	-0.48	1.4	0.1
			Control	-0.84	1.4	0.1
		Coping training	Control	0.35	1.48	0.1

Table 9: Pairwise comparison between the means of post-test and follow-up

Group	Variable	I stage	J stage	Difference (I-J)	Standard error	Significance
Emotion regulation	Physical domain	Post-test	Follow-up	-2.06	0.8	0.02
	Psychological domain	Post-test	Follow-up	2	0.62	0.01
	Social domain	Post-test	Follow-up	2	0.45	0.001
	Environmental domain	Post-test	Follow-up	3.06	0.77	0.001
Coping therapy	Physical domain	Post-test	Follow-up	0.13	1.33	0.9
	Psychological domain	Post-test	Follow-up	0.53	2.1	0.8
	Social domain	Post-test	Follow-up	0.86	0.45	0.1
	Environmental domain	Post-test	Follow-up	6.2	1.23	0.001
Control	Physical domain	Post-test	Follow-up	-1	0.46	0.06
	Psychological domain	Post-test	Follow-up	0.13	0.99	0.8
	Social domain	Post-test	Follow-up	-0.13	0.59	0.8
	Environmental domain	Post-test	Follow-up	0.26	0.73	0.7

and environmental domain subscale changed significantly in the coping training group (P <0.05), but there is no significant change in other areas.

Discussion and conclusion

The purpose of this study was to determine the effectiveness of emotional regulation training and coping therapy training on quality of life in adolescents at risk of drug abuse. The first finding was that the intervention based on emotion regulation did not have a significant effect on the quality of life of boy adolescents, but among the research groups, this difference was significant in terms of quality of life subscales, and suggests a positive effect of the emotional training program on the psychological domain. The results of this study are consistent with the study conducted by Phelps (2006) in terms of insignificant association between emotion regulation and physical, social and environmental domains of quality of life, and there is no necessity for all quality of life subscales to have a significant association with the emotion regulation training. Our results were not in line with the results of Khazaie Alaem (2014), Maami and Amirian (2016), and Rezaei (2016). In the mentioned studies, the emotional regulation had a significant effect on all subscales of quality of life, but in terms of significant relationship between emotional regulation and the psychological part of quality of life, our research is consistent with studies done by Phelps (2006), McCob, Gerald and Lennigan (2014), Abolqasemi, Neda'i et al. (2016), Abolghasemi, Sadeghi and Shahri (2013), Khazai Alaem (2014), Karimian (1390), Maami and Amirian (2016), Rezaei (2016), and Il Beigi, Qala Ni and colleagues (2016). All of them reflect the positive effect of emotional regulation on the psychological dimension of quality of life. In explaining these findings, it can be assumed that quality of life consists of mental dimensions (mental functions) and objective dimensions (physical, environmental and social functions), but there is not necessarily a coordination between two dimensions of quality of life. One who has good objective conditions may not be satisfied with the mental dimension of those conditions. In other words, there may be a contradiction between two dimensions of the judgment: the individual or empirical and the scientific or objective judgments (Phelps, 2006, quoted by Karimian, 2011). The word quality is inherently problematic because it varies from person to person, and any interpretation of it depends on the values and experiences of the interpreter of the word. The sense of well-being is the most important aspect of the quality of life. The quality of life here means the evaluation of the person from his life. Quality of life has physical, social, psychological, and environmental dimensions. In the physical domain, questions about human physical dimensions - including power, energy, and ability to perform daily activities and self-care as well as symptoms of illness, such as pain - are interpreted and evaluated. In the social dimension, the feeling of superiority and quality of communication between individuals and family, friends, colleagues and the community is explained; however, in the psychological dimension, more psychological symptoms like anxiety, depression, fear, and relative deprivation are measured. In the environmental domain, the quality of the environment surrounding human life is examined for living; the use of negative strategies for regulating emotions such as disastrous thinking, self-defeating and mind rumination can lead to anxiety (Garnefski,. & Kraaij, 2001). In this research, the results of the effectiveness of emotional regulation training on quality of life are divided into two parts: objective (physical, social, and environmental) and psychological aspects. In the psychological dimension, more psychological symptoms like anxiety, depression, fear, and relative deprivation are measured. In this research, after removing the effect of pre-test scores, there was a significant difference between

the mean of the psychological domain of the emotion regulation group and the control group (P <0.05). This suggests that the emotional adjustment training program has a positive effect on the psychological domain. In other aspects of quality of life, the emotion regulation training has had an effect on quality of life but it was not likely to be significant. In the physical domain, which power, energy, the ability to do daily activities, self-care and also disease symptoms like pain are measured and evaluated, considering that positive or negative strategies of cognitive regulation of emotion are a particular form of self-discipline (Hills & Argyll, 2001, quoted by Asabolqasemi et al., 2013), which is used as external and internal processes involved in reviewing, evaluating and modifying the appearance, severity and duration of emotional reactions, and is used at obscure, semi-conscious and conscious levels, it seems that this can make it difficult for the person to answer the questions of the objective sectors of quality of life, and because of the uninformed use of this mechanism, they cannot give the right reactions to insignificant relationship between emotional regulation and the physical dimension of quality of life. In the social dimension, which includes the quality of communication between people with family, friends, colleagues and the community, due to the unilateral nature of the training on adolescents at risk, the continuing incomplete and inadequate communication between these adolescents and their surroundings, as well as their emotional sensitivity in communication, we see insignificant relationship between emotion regulation and the social dimension of quality of life. The environmental dimension of quality of life is subject to satisfaction with the climate, housing and health conditions and the reason for their insignificance is the lack of any change in the conditions and status of the Kish Island's habitat and climate before and after the test, and leads to insignificance in the relationship between emotional regulation and the environmental dimension of quality of life.

Another finding of the present study is the positive effect of coping therapy on quality of life. Coping-therapy through directing the person to concentrate on initial and secondary appraisals of stressful events and efficiency of coping methods, and also avoiding the person from specific coping technique in life and using different techniques based on each stressful context, reduce the effect of stressful situations and consequently shows its useful effects on immunologic indicators. The patient in therapy sessions learns in facing a stressful event to do first an initial appraisal and if threatening, considering the context and possibilities, take advantage of the most appropriate coping technique and follow the secondary appraisals accordingly (Aghayousefi1, Alipour & Sharif ,2018). The results of this research are in line with the findings of Marsac and Funk (2007), Siqueira & Costa (2017), Kaltsouda & Skapinakis (2011), Kheirabadi et al., (2010), Nedaie et al., (2016), Akbari et al., (2015), Il Beigi, Qale Ni and Rostami (2016), and Beigi and colleagues (2012). In explaining these research findings, it can be assumed that stress-related illnesses and worsening general health are more commonly seen in those who continuously use emotional responses. Various stresses have a negative effect on individual and social coping resources, which can reduce individual strength and, in the long run, have an unpleasant effect on student's physical and mental health. It has been shown that stress leads to physical and psychological illnesses and impairment in performance and compatibility, and ultimately decreases the quality of life of students. The inefficient coping approach in the long run brings about a wide range of sustained stress and emotional disorder, and this disturbance is revealed in the physical, social, and general fields of life and one does not have the quality of life suitable for growth and development.

On the one hand, the quality of life of students is somewhat influenced by the way of dealing

with the events of life. On the other hand, coping methods of individuals and their adaptability, or no adaptability, are due to the person's ability and his emotional intelligence, especially the ability to regulate emotions to adapt to the demands of their environment (Nada'i, Pakhosh & Sadeghi, 2016).

According to Grey's findings (2000 quoted from Alaei, 1393), coping strategies affect psychosocial outcomes such as psychological adjustment, depression and quality of life. Individuals who use adaptive coping skills are much more successful in tackling life-stretching problems and have higher quality of life (Kleinke 1994, Translated by Mohammadkhani, 2010). Akbari et al. (1394), conducting their research entitled "Assessing the effectiveness of teaching stress coping skills on quality of life and the amount of pain in breast cancer patients", concluded that teaching stress coping skills improves the quality of life and its functional dimensions and symptoms in patients with breast cancer.

Given that coping is related to individual responses to stressful situations and students at risk of drug abuse experience more stress in the community, then individuals who use adaptive coping skills can better face with life problems, because these people see stressful events as a challenge and an opportunity to learn, not a threat to security. As a result, they experience less physiological and emotional disturbances, and this results in their quality of life being higher than those who do not use these approaches. Children in such dysfunctional families experience more conflict and stress than the children of stable families. Family turmoil reduces the adolescent's ability to compromise with a variety of psychological pressures. In such a situation, the overall capabilities of a person in dealing with problems affect his/her quality of life. Of these individual abilities, we can mention coping skills (Alaei Kharaem, 2014). Kheirabadi et al. (2010) and Marsac and Funk (2007) also found results on the positive relationship between problem-oriented coping strategies and quality of life.

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