

Effectiveness of Acceptance and Commitment-based Therapy Group Training on Drug Abuse Tendencies in Adolescent Girls

Maryam Nizami,^{*1} Leila Pilehchi,² Nahid Rahi,³ Mohammad Ali Younisi⁴

Abstract

Introduction: Act psychology seeks to increase the quality of life by reducing the effect of effective control strategies, supporting behavior change based on values. The aim of this study was to investigate the effectiveness of group therapy based on acceptance and commitment on the tendency of drug abuse in adolescent girls.

Research method: The research was a semi-experimental method with a pre-test and post-test design with a control group. The statistical population was all female students of the second secondary level of Qazvin city, who were studying in the academic year of 2001-2001. The sample group was 30 people who were selected using random multi-stage cluster sampling method. In order to collect information in this research, Zargar addiction readiness questionnaire was used, covariance analysis was used to analyze the data. The data was analyzed using SPSS version 28 software.

Findings: The results of covariance analysis showed that there is a significant difference between the pre-test and post-test scores and group therapy training based on acceptance and commitment has reduced the tendency to abuse drugs in teenage girls.

Conclusion: group therapy training based on acceptance and commitment by increasing acceptance and psychological flexibility and individual's commitment to perform meaningful actions based on human values leads to a decrease in the tendency to abuse drugs in teenagers.

Keywords: acceptance and commitment therapy, drugs, drug abuse

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¹ - Corresponding author, PhD in Family Counseling, Educational Consultant, Qazvin, Iran

² - Senior expert in psychology, education consultant, Qazvin, Iran

³ - Senior expert in family counseling, education consultant, Qazvin, Iran

⁴ - Master of Psychology, Education Consultant, Qazvin, Iran



Introduction

Today, drug use and addiction has become one of the major concerns of human society. Drug addiction and use is a dangerous and important factor that has a direct impact on the health of society around the world and health goals (1). Drug addiction is a scourge that causes mental and physical breakdown and is the cause of many crimes and social delinquencies (2). On the other hand, addiction, while affecting individual and social life, groups, families and causing social damage, also affects them and creates a vicious circle in the society. The increase in social damage and corruption itself provides a more favorable environment for tending to these types of deviations and has a profound effect on their expansion (3).

According to World Health Organization surveys, 1.2 billion of the world's people are adolescents who are between 10 and 19 years old (4), during this period, girls and boys are physically, emotionally, behaviorally, socially and psychologically different from childhood. Changes are observed and due to these changes, we see many psychological, emotional, social, behavioral and family problems in teenagers. Considering that adolescence, as one of the most sensitive periods of human development, can provide the context for high-risk behaviors and drug use, because they are more excitable and risk-taking than other groups (5). The existence of numerous issues and problems in this period prevents a person from using all his abilities and potentials, (6) therefore, identifying these problems and taking effective measures during this period play an essential role in preventing problems in the next periods of life, the health of the country and the sub-texts of society (7).

On the other hand, adolescence is an important period for starting drug use, which starts using, during these years, the possibility of negative effects on a wide range of growth factors; among other things, it increases cognitive, physical and psycho-social. Also, early use during this period increases the possibility of developing a substance use disorder and for some teenagers, it leads to the development of a substance use disorder in the long term (8). People's beliefs and attitudes about drugs and the negative and positive consequences of their use are defined in the term, tendency to use drugs (9). One of the most important worries and concerns of families is their children's addiction and tendency to use drugs. Consumption of cigarettes, alcoholic beverages and other illegal substances by teenagers is one of the most important health, psychological and social challenges that most of the countries of the world are involved in in some way and it imposes very extensive and severe personal, social and health problems on societies (10).

Research has shown that most risky behaviors such as smoking, alcohol, drugs, and unsafe sexual behaviors begin before the age of 17 (11). The first sparks of addiction in children and adolescents occur when they experience smoking at the age of 10, alcohol at the age of 12, They were introduced to drugs at the age of 14 (12). Indulging in such acts at a young age, in addition to the harm it causes to a person's health; it increases the likelihood that the damage will continue until the end of life (13). Drug use usually begins in adolescence, which is a time of greater vulnerability to other mental disorders (14). Early drug use is also a risk factor for later substance use disorder and is possible. It is also a risk factor for the subsequent development and other disorders (15). In various researches, they have emphasized the existence of gender differences in adolescents in terms of psychological, mental and emotional health and showed that girls have more emotional and psychological problems compared to boys (16).

On the other hand, the education system's only focus on increasing the academic level of students in the past years caused people to not be able to establish proper communication with the society

despite having sufficient scientific knowledge and not to acquire the necessary skills to face the problems of life. This has made them vulnerable in facing the issues and problems of daily life and caused many health problems, mental, emotional and social disorders. Many of these people are not able to use what they have learned. They do not have the necessary abilities to solve their problems and they are not able to make correct decisions about their personal and social problems. Therefore, in order to raise the level of mental health and prevent the occurrence of social damage, planning for prevention is mandatory and necessary (17).

One of the psychotherapeutic interventions that has attracted the attention of psychologists in recent decades to help people and communities with various psychological problems is the teaching of acceptance and commitment therapy, which was introduced by Hayes and colleagues in the early 80s and is known as ACT. The purpose of this approach is to help clients to create a rich, complete and meaningful life so that a person knows his values and goals and knows how he wants to be in life, while suffering that he inevitably has with him. This method is the third wave of the cognitive-behavioral approach, and its primary goal is to increase the quality of life by reducing the effect of effective control strategies, supporting behavior change based on values (18). This goal is achieved by using psychological flexibility exercises. Considering the importance of the mentioned cases, this research was conducted with the aim of determining the effectiveness of group therapy training based on acceptance and commitment on drug abuse tendencies in adolescent girls.

Research Methods:

The current research was semi-experimental research with a pre-test and post-test design with a control group. The statistical population of the study was all female students of the second secondary level of Qazvin city who were studying in the academic year of 2001-2001. At first, a girl's high school was randomly selected from among the high schools of District 2 from among the education districts of Qazvin city, district 2, using the random multi-stage cluster sampling method. After choosing the school and making the necessary arrangements with the school authorities, Zargar addiction readiness questionnaire was implemented. After that, 30 people who scored higher in the readiness to addiction variable compared to other people were selected by a simple random method and were placed in two experimental and control groups, 15 people in the experimental group and 15 in the control group. Controls were randomly replaced. The selection of the sample size was based on the suggested sample size for experimental studies (at least 15 people for each group). Entry criteria included completing the consent form to participate in the educational program and being between 14-18 years old, obtaining the required score in Zargar's Addiction Readiness Questionnaire (2015), and the exit criteria included absenting two consecutive sessions, participating in other educational programs, and not Willingness to participate during meetings.

The research tools were: Zargar Addiction Readiness Questionnaire (1385): This questionnaire was created by Wade and Butcher in 1992. This questionnaire is the Iranian Addiction Readiness Scale, which was created according to the psychosocial conditions of the Iranian Zargar community (2015), which has 36 items plus 5 lie detection items.¹⁹ This questionnaire is a combination of two factors, active readiness and passive readiness. Active preparation for anti-social behavior is the desire to use drugs, positive attitude towards drugs and thrill-seeking, and in

the second factor (passive readiness), most substances are related to lack of self-expression and depression. The scoring of each question is from 0 (completely disagree) to 3 (completely agree). Higher scores mean that the respondent is more prepared for addiction and vice versa. The validity of the scale was calculated by Cronbach's alpha method of 0.90, which is at the optimal level of 20. Analysis of covariance was used to analyze the data. The data was analyzed using spss software version 28.

Results

The results of covariance analysis regarding addiction tendency variable are as follows.

Table 1. Descriptive indicators

Variables	Groups	pretest		posttest	
		control	experiment	control	experiment
Passive readiness component	M	33	36.30	30.30	24
	SD	8.43	6.48	3.09	8.45
Active readiness component	M	29.50	32.20	29.10	19.70
	SD	8.78	8.68	6.67	6.92
Tendency to addiction	M	62.50	68.50	59.40	43.70
	SD	13.39	11.34	13.34	10.31

Table No. 1 shows the results related to the descriptive indicators of the components of passive preparation and active preparation in the addiction tendency variable in the control and experimental groups. The averages reported in the above table show the difference between the control and experimental groups in the post-test.

Table 2: Results of covariance analysis of passive preparation after removing the effect of pre-test scores

Sources of variance	sum of squares	df	mean square	F	Sig	Eta squared
Corrected Model	534.591 ^a	2	267.295	4.320	0.030	0.337
Intercept	42.642	1	42.642	0.689	0.418	0.039
Passive readiness component	336.141	1	336.141	5.432	0.032	0.424
group	318.835	1	318.835	5.152	0.037	0.233
error	1051.959	17	61.880			
Total	16329.000	20				
Corrected Total	1586.550	19				

According to the results of Table 2, the F value calculated for the passive preparation component after removing the effect of the pre-test scores confirmed the existence of a significant difference between the experimental and control groups at the level of 0.05. Therefore, the scores of the

passive preparation component of the participants in the experimental group have decreased significantly compared to the control group ($F = 5.15$ and $p < 0.05$).

Desiccation and conclusion:

The purpose of this research was to determine the effectiveness of group therapy training based on acceptance and commitment on drug abuse tendencies in teenage girls. The results of covariance analysis showed that the intervention group in the post-test showed a significant decrease in the addiction readiness scale in both components of active readiness and passive readiness. In terms of the effect of the educational intervention of this approach on the tendency to abuse drugs, this training has reduced the tendency of students to abuse by creating changes in the active and passive readiness of teenage girls, and the training is effective in reducing the tendency to abuse drugs. Narcotics are among teenage girls. Active preparation for antisocial behavior is the desire to use drugs, positive attitude towards drugs, thrill-seeking, and in the second factor (passive readiness), most substances are related to lack of self-expression and depression. The hypothesis of this research was confirmed and the findings of this research are similar to the findings of similar research on anxiety, stress and depression and psychosocial adaptation²⁰, pathological worry and death anxiety²¹, experiential avoidance of depression and anxiety²², emotional self-control, emotional flexibility and value of life.²³, impulsivity and high-risk behaviors of secondary school female students²⁴, well-being of first secondary school female students in Malekan city²⁵, metacognition and adolescent addiction tendency²⁶, insecure attachment, fear of intimacy and addiction to social networks in Adolescents with a history of suicide²⁷, high-risk behaviors in adolescent girls²⁸, increasing the academic achievement of students, increasing self-esteem and motivation; Individual progress of students is synchronized²⁹.

In explaining how education based on acceptance and commitment leads to a reduction in people's readiness for addiction, it can be stated that according to the research of Saber, Mousavi and Salehi³⁰, people with a tendency to addiction are more resistant to emotional conditions, psychological pressure and Life problems use unproductive problem solving styles such as helplessness and avoidance and benefit less from constructive problem solving styles such as creativity, trust and acceptance. Some people have searched for a quick way to solve the problem, often by consuming drugs, to deal with the unfortunate life conditions and the lack of decision-making and problem-solving methods. Sometimes, under the influence of peers and hidden and overt pressures from them, teenagers have a tendency to use drugs.

The inability to make decisions in times of pressure has made peer groups play a role of facilitating the tendency to abuse drugs. The point here is that education based on acceptance and commitment by learning how to effectively face issues beyond control and perform targeted and effective actions in line with values and how to solve problems, especially emotional problems, in a more creative and more confident way and by teaching how to look at problems Emotional and multi-dimensional looking at all kinds of emotional problems frees a person from mental pressure, helplessness, frustration-aggression and other unpleasant emotions and teaches him that the solution to emotional problems is avoidance, helplessness, failure, aggression and consequently, on It is not taking drugs or engaging in risky behaviors. The solution is not immediate and

temporary, but solving the problem in a complete and purposeful way, and in this way, prevents the person from becoming addicted to drugs. In general, emotional intelligence training, by identifying, controlling and managing positive and negative emotions in oneself and others, provides the basis for the prevention of substance abuse and high-risk behaviors and leads to a reduction in people's readiness for addiction.

In other words, it can be said that acceptance and commitment therapy create therapeutic changes by creating and developing acceptance and increasing the practice of values in clients. In the process of treatment of commitment and acceptance, psychological flexibility is known as the basis of psychological health. The process of commitment and acceptance therapy helps people to accept the responsibility of behavioral changes and to change or persist whenever necessary, and in fact, this therapy seeks to balance the methods appropriate to the situation.

In areas that can be changed, such as obvious behavior, it focuses on change, and in areas where change is not possible, such as family conditions or special diseases, etc., it focuses on acceptance and mindfulness exercises ³¹. This awareness helps people to adopt adaptive and less avoidant coping strategies. Also, the clear effect of cognitive failure and avoiding control and vice versa is the acceptance of those thoughts and feelings and committed action. In fact, this treatment is based on the hypothesis that psychological damage is associated with trying to control or avoid negative thoughts and emotions. One of the most basic issues raised in education based on acceptance and commitment is psychological flexibility, which is a person's awareness of appropriate choices and alternatives in any given situation, the desire to be flexible in order to adapt to the situation, the feeling of self-efficacy in flexibility. Acceptability is defined, in explaining the obtained findings, it can be said that learning the principles and concepts of the commitment and acceptance approach can be effective in the changes created. Because therapy based on acceptance and commitment tries to increase psychological flexibility by providing a tool for clients to identify their personal values and their ability to experience their unpleasant thoughts, feelings and bodily sensations ⁶.

This approach tries to help people stop controlling or avoiding unpleasant feelings or emotions but instead increases their openness and willingness to experience them. The willingness to experience these internal events and respond with acceptance, rather than escape, facilitates individuals' commitment to behaviors that are guided by their core values. Therefore, identifying avoidance behavior and increasing psychological flexibility is the core of interventions based on acceptance and commitment. Commitment and acceptance therapy helps people, in addition to accepting the responsibility of behavioral changes, to change or even persist if needed, and in fact, this therapy believes in the necessity of establishing a balance between methods appropriate to any situation. Acceptance and commitment therapy takes its name from its key message: accept what is out of your control and commit to action that enriches your life. The purpose of the act is to help clients to create a rich, complete and meaningful life while accepting the suffering that forced life brings with it (32). Acceptance and commitment is a non-judgmental and balanced feeling of awareness that helps to clearly see and accept emotions and physical phenomena as they happen (33), so teaching it helps students to deal with emotional, psychological and emotional conditions. accept their family and social circumstances. Acceptance and acceptance of these feelings increases their social health and as a result, their adaptation to these problems improves.

Treatment based on acceptance and commitment allows students to change their relationships with their inner experiences in the first place, reduce experiential avoidance and increase flexibility and

increase action in valuable ways. The basis of this approach helps students to start new and positive relationships in their lives and increase their social courage.

Limitations:

Since acceptance and commitment therapy leads to psychological flexibility and a person's commitment to perform meaningful actions based on human values, it can be used as an effective intervention method for treating psychological issues, including preventing suicide attempts, reducing risky behaviors, and reducing tendencies It used to abuse the substance of teenagers.

Recommendations:

Of course, female students in one of the schools of Qazvin province participated in the present study, so caution should be observed in generalizing to other groups. In addition, it is suggested to conduct similar research on male students so that the results can be compared.

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None

Competing interest

The author declare that they have no competing interest

Ethical considerations

The participants participated in this research after the initial interviews with the participants and filling out the informed consent form. At the end, it was customary and a gift of gratitude was presented to both the experimental group and the control group.

Reference

1. Shoemaker D.J. Theories of delinquency: an examination of explanations of delinquent behavior, 6th Ed. New York: Oxford University Press; 2010.
2. Bryan CJ. The clinical utility of a brief measure of perceived burdensomeness and thwarted belongingness for the detection of suicidal military personnel. Journal of clinical psychology. 2011; 67(10): 981 -992. DOI:[10.1002/jclp.20726](https://doi.org/10.1002/jclp.20726)
3. Buitron, V, Hill RM, Pettit JW, Green, KL, Hatkevich C, Sharp C. Interpersonal stress and suicidal ideation in adolescence: An indirect association through perceived burdensomeness toward others. Journal of affective disorders. 2016; 190: 143 -149. DOI: [10.29252/rbs.19.2.328](https://doi.org/10.29252/rbs.19.2.328).
4. Carbonella JY, Timpano KR. Examining the link between hoarding symptoms and cognitive flexibility deficits. Journal of behavior therapy. 2016; 47(2): 262 -273. DOI:[10.1016/j.beth.2015.11.003](https://doi.org/10.1016/j.beth.2015.11.003)
5. Chuang CWI, Sussman S, Stone MD, Pang RD, Chou CP, Leventhal AM, Kirkpatrick MG. Impulsivity and history of behavioral addictions are associated with drug use in adolescents. Addictive behaviors. 2017; 74: 41 -47. <https://doi.org/10.5114/cipp.2017.70144>
6. Dennis JP, Vander Wal JS. The cognitive flexibility inventory: Instrument development and estimates of reliability and validity. Cognitive therapy and research. 2010; 34(3): 241 -253. URL: <http://salmandj.uswr.ac.ir/article-1-1190-en.html>

7. Eades A. Suicide among older adults: An exploration of the effects of personality and self-esteem on thwarted belongingness, perceived burdensomeness, and suicidal ideation. Doctoral dissertation, University of Colorado, Colorado Springs; 2016.
8. Fallahzadeh M. The effect of cognitive errors avoidance through narrative therapy on depression and dysfunctional attitude of elementary girl students. *International journal of children and adolescents*. 2017; 3(4): 1 -8. DOI:[10.3200/GNTP.167.1.47-63](https://doi.org/10.3200/GNTP.167.1.47-63)
9. Fazel M. The emerging evidence for narrative exposure therapy: A review. *Clinical psychology review*. 2010; 30(8), 1030 -1039. DOI:[10.1016/j.cpr.2010.07.004](https://doi.org/10.1016/j.cpr.2010.07.004)
10. Flaskas C. *Family therapy beyond postmodernism: Practice challenges theory*. New York: Taylor & Francis Inc; 2022.
11. Ghandehari M, Moosavi L, Jazi FR, Arefi M, Ahmadzadeh S. The effect of narrative therapy on resiliency of women who have referred to counseling centers in Isfahan. *International journal of educational and psychological researches*. 2018; 4(2): 65 -80. <https://kumel.medlib.dsmc.or.kr/bitstream/2015.oak/42224/1/oak-2018-1774.pdf>
12. Hawkins KA, Hames JL, Ribeiro JD, Silva C, Joiner TE, Cogle JR. An examination of the relationship between anger and suicide risk through the lens of the interpersonal theory of suicide. *Journal of psychiatric research*. 2014; 50: 59 -65. DOI: [10.4103/2395-2296.204124](https://doi.org/10.4103/2395-2296.204124)
13. Hill RM, Rey Y, Marin CE, Sharp C, Green KL, Pettit JW. Evaluating the Interpersonal Needs Questionnaire: Comparison of the reliability, factor structure, and predictive validity across five versions. *Suicide and life -threatening behavior*. 2015; 45(3): 302 -314 <https://doi.org/10.1371/journal.pone.0279272>
14. Steinberg L, Monahan KC. Age differences in resistance to peer influence. *Developmental psychology*. 2007; 43(6):15 -31. DOI:[10.1037/0012-1649.43.6.1531](https://doi.org/10.1037/0012-1649.43.6.1531)
15. Khazem LR, Law KC, Green BA, Anestis MD. Examining the relationship between coping strategies and suicidal desire in a sample of United States military personnel. *Comprehensive psychiatry*. 2015; 57: 2 -9. <https://doi.org/10.1016/j.psychres.2019.01.067>
16. Lamis DA, Lester D. Risk factors for suicidal ideation among African American and European American college women. *Psychology of women quarterly*. 2012; 36(3): 337 -349. <https://doi.org/10.1017/prp.2019>
17. Lee JK, Orsillo SM. Investigating cognitive flexibility as a potential mechanism of mindfulness in generalized anxiety disorder. *Journal of behavior therapy*. 2014; 45(1): 208 -216. DOI:[10.1016/j.brat.2014.07.006](https://doi.org/10.1016/j.brat.2014.07.006)
18. Mahmoudi Souran H, Sanagouyemoharer GR, Shirazi M. Acceptance and commitment therapy improves psychological flexibility of students with thalassemia major: a randomized controlled trial. *Practice in clinical psychology*. 2019; 7(2): 107 -116. URL: <http://ijpcp.iums.ac.ir/article-1-2776-en.html>
19. Martin MM, Rubin RB. A new measure of cognitive flexibility. *Psychological reports*. 1995; 76(2): 623 -626. URL: <http://intjmi.com/article-1-751-en.html>
20. Park Y, Kim H. S. Validation of the Korean version interpersonal needs questionnaire. *Suicide and life-threatening behavior*. 2019; 49(3):739 - 758. DOI:[10.1111/sltb.12473](https://doi.org/10.1111/sltb.12473)
21. Pellerin N, Raufaste E, Corman M, Teissedre F, Dambrun M. Psychological resources and flexibility predict resilient mental health trajectories during the French covid -19 lockdown. *Scientific reports*. 2022; 12(1):1 -16. DOI:[10.1016/j.jrurstud.2017.07.007](https://doi.org/10.1016/j.jrurstud.2017.07.007)

22. Rashid S, Khorramdel K, Gholami F, Senobar L. The relationship between interpersonal psychological theory of suicide constructs (loneliness, perceived social support, thwarted belongingness and burdensomeness) and suicidal behavior among Iranian students. *Health education and health promotion*. 2016; 4(2): 35 -48. [URL: http://hehp.modares.ac.ir/article-5-5037-en.html](http://hehp.modares.ac.ir/article-5-5037-en.html)
23. Rhodes A, Rozell T. Cognitive flexibility and undergraduate physiology students: increasing advanced knowledge acquisition within an ill -structured domain. *Advances physiology education*. 207; (41): 375 -382. <https://doi.org/10.3390/ijerph17030931>
24. Seo JW. Thwarted belongingness and perceived burdensomeness in Korean college students: Psychometric properties and cultural considerations for the interpersonal needs Questionnaire -10. *Death studies*. 2019; 44(5):261-269. [10.22098/JHRS.2022.9519.1017](https://doi.org/10.22098/JHRS.2022.9519.1017)
25. Shakeri J, Ahmadi SM, Maleki F, Hesami MR, Moghadam AP, Ahmadzade A, Elahi A. Effectiveness of group narrative therapy on depression, quality of life, and anxiety in people with amphetamine addiction: a randomized clinical trial. *Iranian journal of medical sciences*. 2020; 45(2): 91 -100. <https://doi.org/10.30476/ijms.2019.45829>
26. Tripp MK. Tanning addiction in adolescents: directions for measurement and intervention development. *Journal of investigative dermatology*. 2018; 138(7): 1463 - 1467. <https://doi.org/10.1101/2021.12.07.21267399>
27. Van Orden KA, Cukrowicz KC, Witte TK, Joiner Jr TE. Thwarted belongingness and perceived burdensomeness: construct validity and psychometric properties of the Interpersonal Needs Questionnaire. *Psychological assessment*. 2022; 24(1): 197 -210. <https://www.frontiersin.org/articles/10.3389/fpsy.2022.833400/full>.
28. Degenhardt L, Baxte AJ, Lee YY, Hall W, Sara GE, Johns N, Vos T. The global epidemiology and burden of psycho -stimulant dependence: findings from the Global Burden of Disease Study 2010 Drug and alcohol dependence. 2014; 137: 36 -47. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7662521/>
29. DiClemente CC, Schlundt D, Gemmell, L. Readiness and stages of change in addiction treatment. *American journal on addictions*. 2004; 13(2), 103 -119. [URL: http://imtj.gmu.ac.ir/article-1-3262-en.html](http://imtj.gmu.ac.ir/article-1-3262-en.html)
30. Downey L, Rosengren DB, Donovan DM. To thine own self be true: Self-concept and motivation for abstinence among substance abusers. *Addictive behaviors*. 2004; 25(5): 743-757. DOI:[10.1016/S0306-4603\(00\)00091-5](https://doi.org/10.1016/S0306-4603(00)00091-5)
31. Drieschner KH, Lammers SM, Van Der Staak CP. Treatment motivation: An attempt for clarification of an ambiguous concept. *Clinical psychology review*. 2004; 23(8): 1115 - 1137.
32. Fortuna LR, Vallejo Z. Treating co -occurring adolescent PTSD and addiction: Mindfulness -based cognitive therapy for adolescents with trauma and substance -abuse disorders. Oakland: New Harbinger Publications; 2015.
33. Gan WQ, Buxton JA, Scheuermeyer FX, Palis H, Zhao B, Desai R, Slaunwhite AK. Risk of cardiovascular diseases in relation to substance use disorders. *Drug and alcohol dependence*. 2021; 229: 109 -132. <https://bmchealthservres.biomedcentral.com/articles/10.1186/s12913-017-2201-8>

34. Van Orden KA, Witte TK, Cukrowicz KC, Braithwaite SR, Selby EA, Joiner Jr TE. The interpersonal theory of suicide. *Psychological review*. 2010; 117(2): 575 -586. DOI:[10.1016/j.drugalcdep.2021.109132](https://doi.org/10.1016/j.drugalcdep.2021.109132)