

## Efficiency of Rational Emotive Behavior Therapy on Anxiety Traits and Irrational Ideas among Patients with Drug Addiction

Saida El-Sayed Hassan Ibrahim El-Azzab<sup>1</sup>, Basma Elsayed Mohamed Othman<sup>2</sup>, & Shima Mohamed Hassan Ali<sup>3</sup>

<sup>1</sup> Assistant Professor of Psychiatric/Mental Health Nursing, Faculty of Nursing, Beni-Suef University, Egypt.

<sup>2</sup> Lecturer of Psychiatric/Mental Health Nursing, Faculty of Nursing, Cairo University, Egypt.

<sup>3</sup> Lecturer of Psychiatric/Mental Health Nursing, Faculty of Nursing, Beni-Suef University, Egypt.

### Abstract

**Background:** Rational emotive behavior therapy used emotive, cognitive and behavioral methods to help individuals with drug addiction to dispute their irrational ideas, think more rationally, actualize their life goals and be happier. **Aim:** To assess the efficiency of rational emotive behavior therapy on anxiety traits and irrational ideas among patients with drug addiction. **Research hypothesis:** Patients with drug addiction who participate in the REBT are more expected to alleviate anxiety levels and reduce illogical thoughts after management than before program implementation. **Design:** This study employed a quasi-experimental design (pre/post-test one group). **Setting:** It was achieved at the Addiction Inpatients in Al-Waey Hospital in Benha, Qalyubia Governorate. **Sample:** A purposive sample of fifty-five patients with drug addiction were recruited in this study. The program involved 14 sessions. **Tools:** Involved three parts: Clinical and socio-demographic characteristics sheet, Taylor's Manifest Anxiety Scale and the Rational and Irrational Ideas Questionnaire. **Results:** The study results demonstrated highly statistically significant differences regarding levels of anxiety of studied patients between pre-post program ( $p \leq 0.000$ ) and pre-follow-up program ( $p \leq 0.002$ ). It showed mean changes with statistically significant differences between three observations regarding the total irrational ideas of studied sample ( $p \leq 0.000$ ). **Conclusion:** The findings revealed that rational-emotive behavior therapy had a great positive effect on patients with drug addiction in alleviating anxiety levels and irrational thoughts. **Recommendation:** The results recommended that nurses and other healthcare teams in psychiatric organizations should help patients with drug addicts use rational-emotive behavior therapy to reduce their anxiety traits and control their irrational ideas.

**Keywords:** Anxiety traits, Behavior, Emotive, Ideas, Irrational, Rational, & Therapy.

### Introduction

Drug addiction is a chronic, progressive and devastating disease that not only causes the death of drug addicts themselves but also hurts their families of the drug addicts as well as society in general (Ebrahem et al., 2020). Neuronal connections in the brain that control reward, mood, well-being, pleasure, learning, memory and the capacity to inhibit undesired urges are disrupted (WHO, 2018). Worldwide, over eleven million individuals are expected to inject medications, about half of them infected with hepatitis C. Also, opioids remain responsible for the greatest burden of disease associated with drug usage (World Drug Report, 2021).

Anxiety is defined as a state triggered by a sensation of isolation or anger caused by dysfunctional interpersonal interactions. Anxiety, in particular, is a feeling that includes both mental components like restlessness and worry as well as physical aspects like avoidance and dizziness (Ostrovsky et al., 2013). Anxiety is the most frequent difficulties described by individuals finding a cure for drug dependence. Early

psychiatric warning signs persist beyond remission and detoxification of addictive performance (Robichaud et al., 2019). Anxiety can result from drug addiction. About 25% of persons who recover from alcoholism experience anxiety, which is most common during the acute withdrawal period and can last for a maximum of two years as a result of the subsequent severe withdrawal symptoms (Hoffman et al., 2017). Substance usage and anxiety are major causes and responsible for three-quarters of disability among young people in high-income countries (Mewton et al., 2020).

Importantly, substance abuse and anxiety often co-occur. Together, these circumstances contribute to an increased burden of disease and social and economic costs, due to significant health care costs and time consumed outside the workforce over an individual's lifetime due to absenteeism or incapability to attain work, study and training in times of mental disorders (Das et al., 2016). To alleviate this burden and improve the life routes of young people, we must intervene early, before patterns of substance use, and anxiety are established, causing disability, harm and

the application of rational emotive behavioral therapy for patients with addiction are very effective (Erskine et al., 2015).

Rational emotive behavior therapy (REBT) is a type of psychotherapy developed by Albert Ellis in the 1950s. This therapy was originally known as rational therapy before it expanded to include emotion and behavior. REBT is an action-oriented approach focused on teaching people how to deal with their thoughts, emotions and behaviors in a healthier and more realistic manner (Guy-Evans, 2022).

The Rational Emotive Behavior Therapy (REBT) counseling technique is suitable for turning irrational thinking into rational thinking and is based on the belief that most addict patients think irrationally about their lives. The major purpose of REBT is to use cognitive, emotive and behavioral techniques to help drug abusers enthusiastically dispute their irrational thoughts and beliefs; think more rationally, and act more functionally in order to achieve their life objectives and be happier with their lives (Kurniawati & Basuki, 2019).

As well, the REBT promotes users to be more accepting of themselves, others and encourages them to accomplish individual goals. This goal could be achieved by getting people to learn to think rationally to change self-destructive behavior and by helping them to learn new ways of acting. So, the counselor has a role as a person who helps clients/drug addicts to change their behavior and avoid acts of drug abuse by using the REBT approach in the counseling process (Hussin et al., 2018).

### Significance of the study:

Corresponding with the **World Drug Report (2021)** released by the United Nations Office on Drugs and Crime, which stated that all countries experience the dangerous problem of drug use, it added that about 275 million persons used medications globally in the previous year, while more than 36 million persons suffered from drug abuse conditions. Between the years 2010/2019, the number of drug users increased by 22%, due in part to worldwide population growth. Based on demographic changes alone, current projections propose an 11% increase in a number of individuals who take drugs globally by 2030, with Africa seeing a 40% increase due to its quickly rising and young population.

In Egypt, the most recent national survey which involved a sample of 106,480 individuals indicated that around 0.2% of Egypt's population is over the age of 15; and showed that approximately 19.3% were experimental users, while 6.7% were regular users and 6.4% met the dependency criteria (Ebrahim et al., 2020). The lifetime commonness in Egypt of any drug usage shifts somewhere in the range of 7.25%

and 14.5% (El-Hamady et al., 2020). As well, Kabbash et al. (2022), who studied substance abuse, on a sample of 2552 students, at Kafr El-Sheikh University, from all faculties, during the academic year 2018-2019, they found that, the prevalence of recent during use was 8.9% for cigarette smoking, followed by sedatives (4.3%), cannabis (3.6%), alcohol (2.7%), bango (1.4%), and tramadol (1.0%). Additionally, it is hoped that this study might help patients with drug addicts to use the REBT, to deal with their anxiety symptoms and irrational ideas. The goal for carrying out this study is that although there is an increase in numbers of drug addicts and suicide, in the last period, there is a lack in studies done in the Egyptian country about examining the efficiency of the REBT on anxiety traits and irrational ideas for patients with drug addicts.

### Aim of the study:

The present study aimed to assess the efficiency of rational emotive behavior therapy on anxiety traits and irrational ideas among patients with drug addicts. This was accomplished by achieving the following goals:

- Assessing levels of anxiety traits and irrational ideas among patients with drug addicts.
- Designing a program about rational emotive behavior therapy for patients with drug addicts who have anxiety traits and irrational ideas.
- Implementing the rational emotive behavior therapy program for patients with drug addicts who have anxiety traits and irrational ideas.
- Evaluating the effectiveness of rational emotive behavior therapy on anxiety traits and irrational ideas among patients with drug addicts.

### Research hypothesis:

Patients with drug addicts who participate in the REBT are more expected to alleviate anxiety levels and reduce illogical thoughts after management than before program implementation.

### Materials and Methods:

#### Research design:

To accomplish the study's goal, a quasi-experimental design (pre/post-test one group) was adopted.

#### Setting:

The present research was done at the addiction inpatients ward at the Psychiatric and Addiction Treatment Al-Waey Hospital at Warwra Village in Benha City, at Qalyubia, Egypt. It is a governmental hospital affiliated to the Ministry of Health, which offers mental health services for free.

#### Sample:

A sample of fifty-five patients with substance abuse admitted to the addiction inpatients' ward at the Psychiatric and Addiction Treatment Al-Waey

Hospital in Warwra Village, in Benha City, Qalyubia, Egypt. A sample was chosen using a purposive sampling technique.

**The Inclusion criteria:** Being a patient with substance abuse according to the hospital database and medical diagnosis based on diagnostic criteria of the ICD-10 symptom checklist to confirm the diagnosis of substance use disorders without comorbidity with other psychiatric disorders, being at least 18 years old or above, both sex, approve to share in the research, can communicate in a coherent and relevant style.

**The Exclusion criteria:** Patients who have other psychiatric illnesses, patients have been diagnosed with cognitive impairment, or brain dysfunction and chronic physical illness.

**Sample size:**

This study was carried-out on 55 patients, with drug addiction disorders who received care at the psychiatric inpatient ward for six successive months. Total annual admissions for addiction in 2020 at the psychiatric inpatient ward were 488 patients with addicts. The selection of the sample size was done using the formula:

$$n = \frac{t^2 \times P(1 - P)}{m^2}$$

Where: N= 55 patients with drug addiction.

**Description of formula:**

N= required sample size

t= confidence level at 95 % (standard value of 1.960)

Confidence interval 12

p= estimated prevalence of depression

m= margin of error at 5 % (standard value of 0.050)

**Tool of data collection:**

A constructed interview sheet, which includes three parts, was applied to achieve the goal of the study.

**Part I: Clinical and socio-demographic characteristics' sheet:** The researchers designed it after reviewing the relevant literature, it contains:

**A. Socio-demographic data:** To elicit data about the patient, as; age, sex, marital status, level of education, occupation, residence and income.

**B. Clinical data:** Which include types of addiction have been using, number of years of abuse and previous hospitalization history.

**Part II: Taylor's Manifest Anxiety Scale (TMAS):** It was originally developed by Taylor (1953). Then, the quote and development of the Taylor manifest anxiety scale in the Egyptian culture were performed by Fahmy & Ghaly (1993). It involved 50 statements. It has been consequently applied as a general sign of anxiety like a personality characteristic. Taylor believed that degree of personality drive would be displayed in the severity of "manifested anxiety" and determined by using

true/false responses. Scoring/ Interpretation: True-false replies are utilized for each item and the responses representing anxiety are considered, giving a score from 0 to 50 with a higher score indicating a higher level of anxiety score. 0 to 16 means very low anxiety; 17 to 19 low anxiety; 20 to 24 average anxiety; 25 to 29 anxiety is above average; 30 to 34 severe anxiety; and from 35 to 50, anxiety is very high.

**Part III: The Rational and Irrational Ideas Questionnaire** was a valid and reliable scale in the Arabic language for testing irrational beliefs adopted by Al-Rayhani (1985). It included 52 items. The scale involves thirteen subscales each addressing a different idea and measured by four items. These subscales such as: Accepted by every member subscale which involved 4 items (1, 14, 27 and 40); Effective and accomplished in a perfect manner subscale which included 4 items (2, 15, 28 and 41); The degree of meanness and villainy subscale which consisted of 4 items (3, 16, 29 and 42); A grievous misfortune subscale which involved 4 items (4, 17, 30 and 43); The unhappiness subscale which included 4 items (5, 18, 31 and 44); A great attention and a constant preoccupation subscale included 4 items (6, 19, 32 and 45); The avoid some difficulties and responsibilities subscale which involved 4 items (7, 20, 33 and 46); Dependent on others subscale included 4 items (8, 21, 34 and 47); Past experiences subscale included 4 items (9, 22, 35 and 48); Upset or sad about the problems subscale included 4 items (10, 23, 36 and 49); The correct solution subscale included 4 items (11, 24, 37 and 50); Serious in his interactions with people subscale comprised 4 items (12, 25, 38, and 51); The position of a man is the most important in his relationship with a woman subscale involved 4 items (13, 26, 39 and 52). The responses were "yes", or "no". Two points were provided to each item that responded "Yes", and every question that received a response "No" was given one point. The total scores were calculated, and the prospective scores varied from (52-104). The greater scores revealed that the irrational ideas had elevated levels ( ≥ 60% of the sum score indicated to have irrational ideas).

**The validity of the tools:**

A five-person panel of experts in the disciplines of psychiatric/mental health nursing and medicine examined the tools for content validity to assure the correctness and applicability of the items and the required modifications were performed consequently. In addition, the period necessary to fill in the questionnaires was estimated.

**Reliability of the tools:**

Using Cronbach's alpha and appropriate test reliability, Fahmy & Ghaly (1993) calculated the internal stability of part II, and they found that it was

strongly dependable at 0.857. **Al-Murshidi & Al-Tufaili (2015)** used high test-retest "Cronbach's alpha" reliability to estimate the inner consistency of part III and discovered that it was strongly dependable at 0.84.

#### **Collection of the Data:**

The collection of data and the inclusion of the program started from the beginning of March 2021 until the end of August 2021. The nursing intervention program about REBT was applied through 14 sessions. Subjects were divided into 5 small groups each group included 11 patients with drug addiction. The program is conducted through four phases:

**Assessment phase:** The researchers met the patients in the inpatient units. The subjects were introduced to the researchers, who then went on to explain the purpose of the study and acquired their agreement to participate. Then, using the study tools to evaluate socio-demographic variables, clinical data, Taylor's Manifest Anxiety Scale and the questionnaire on reasonable and irrational beliefs, the researchers conducted individual interviews with each patient to obtain a baseline evaluation (pre-test). The researchers conducted an interview with every group to explain the advantages of therapy, the group's rules and the timetable for meetings, which would take place from 10.00 a.m. to 1.00 p.m. twice a week for a minimum of two months. After the therapy has been completed, the post-test was performed and the study parts II and III were used for follow-up three months later. The daycare sessions were held at the conference room of the Psychiatric and Addiction Treatment Hospital in the Warwra Village of Benha City, Qalyubia Governorate.

**Preparation phase:** The researchers designed a training program based on the findings from interviews, observations, reviews of the patient's medical records and literature reviews. **The program contents** dealt with patients' needs, interests and levels of comprehension were taken into consideration when developing the handouts. They consisted of several aspects to alleviate anxiety symptoms and reduce irrational thoughts, which included general reactions to anxiety, the relationship between anxiety and addiction as well as adaptive coping mechanisms (awareness, progressive muscle relaxation, & meditation), the REBT model was adopted from **Alsakhan (2005)** by the researchers and the use of humor to establish desired adaptive behavior. **Teaching strategies:** lectures/discussions, demonstrations and re-demonstrations were used for all studied patients. The teaching media included handouts, pictures, videos and a slide to be presented on the researchers' computers as a teaching method.

**Implementation phase:** It was implemented immediately after the pretest and prepare of the program contents. The program is applied through three stages:

**First Stage:** One session, the researchers introduced themselves to patients in order to establish a proper relationship with them, explained the study's goal and established group rules in order to foster a suitable engagement between the two parties (confidentiality, commitment to attendance, putting feelings into words not actions, active participation) and give brief introduction about the program sessions.

**Second Stage:** Two sessions that covered an introduction to anxiety, variables influencing anxiety responses, anxiety predisposing factors, symptoms and general reactions to anxiety, the relationship between anxiety and addiction as well as adaptive coping mechanisms (awareness, progressive muscle relaxation, meditation).

**Third Stage:** Through eight sessions, this stage aimed to teach patients how to use the framework model of REBT. This framework describes the connection between an activating event, beliefs and consequences. It also teaches patients how to defend against shame and low self-esteem and how to practice dysfunctional thought, cognitive rehearsal and keep track of the benefits of abstinence from addiction as well as the pleasures and pains it causes. Then, learn how to defend against irrational thoughts and cognitive distortions like "should" and "ought," "catastrophizing," and "selective conceptualizing," and use role modeling, attention disturbance in addition to humor to establish desired adaptive behavior.

**Evaluation phase:** The REBT evaluation was done using a posttest to evaluate the program's effectiveness, which was the same as the pre-test to evaluate the impact of the therapy. Three months later, after post-test, the follow-up test was performed using the same tools in order to estimate the efficiency of rational-emotive therapy to alleviate anxiety and irrational ideas for patients with drug addiction through a comparison of results with pre-post-tests.

#### **A pilot study:**

To determine the time needed to fill in the tools and to verify the tools' applicability and completeness, a pilot study was conducted. It was carried out on a sample of six patients representing almost 10% of the sample. Those who participated in the pilot study were excluded from the main study sample since minor modifications were required for the tools.

#### **Procedure of data collection:**

Administrative approval: The directors of the Psychiatric and Addiction Treatment at Al-Waey Hospital in Warwra Village, Benha City, Qalyubia,

Egypt, and the General Secretariat of Mental Health Hospitals Committee for Research Ethics granted formal approval to implement the study.

#### Ethical consideration:

Patients verbally and written consented to participate in the study after a detailed description of the study's goal, nature and that confidentiality will be guaranteed that any information obtained will be kept private and utilized solely for the purposes of this study and that there is no risk from their participation. Each patient was also assured about the ethical right to accept or reject participation in the study and each patient has the option to withdraw from the research at any time without any reason.

#### Statistical analysis

Data collected were tabulated and statistically analyzed using an IBM personal computer, version 22, of the Statistical Package for Social Science (SPSS). Both descriptive statistics like range, mean and standard deviation (SD); and qualitative data like numbers and percentages were provided as forms of data. The significant tests were employed as Fischer exact test, Chi-square test ( $\chi^2$ ), Paired t-test, Student t-test and Spearman's correlation ( $r$ ). P-value of  $>0.05$  was showed statistically non-significant, while P-value of  $<0.05$  was determined statistically significant and P-value of  $<0.001$  was indicated statistically highly significant.

#### Results:

**Table (1): Frequency distribution of demographic characteristics for studied patients (n = 55).**

Demographic characteristics	No	%
<b>Age</b>		
<30	20	36.4
30-<40	24	43.6
40+	11	20.0
Min -Max	17-53	
Mean $\pm$ SD	32.60 $\pm$ 7.94	
<b>Marital status</b>		
Single	27	49.1
Married	25	45.5
Divorced	3	5.5
<b>Educational level</b>		
Primary	3	5.5
Diploma	25	45.5
Secondary	4	7.3
University	23	41.8
<b>Occupation</b>		
Working	41	74.5
Do not work	14	25.5
<b>Residence</b>		
Rural	19	34.5
Urban	36	65.5
<b>Income</b>		
Sufficient	34	61.8
Insufficient	21	38.2

**Table (2): Frequency distribution of smoking habits and addiction of studied subjects (n = 55).**

Variables	No	%
<b>Smoking</b>		
Smoker	53	96.4
Non-smoker	2	3.6
<b>Smoking years</b>		
<10	11	20.7
10-<15	25	47.2
15+	17	32.1
Min-Max	1-35	
Mean $\pm$ SD	13.04 $\pm$ 8.61	
<b>Addiction years</b>		
<5	20	36.4
5-<10	14	25.5
10+	21	38.2
Min-Max	1-22	
Mean $\pm$ SD	7.82 $\pm$ 5.77	

Variables	No	%
<b>Number of hospital admissions</b>		
<3 times	37	67.3
3-5	9	16.4
More than 5	9	16.4
Min-Max	0-7	
Mean ±SD	2.45 ± 2.19	
<b>Did you go to the hospital because of addiction?</b>		
By your will	25	45.5
A member of the family	30	54.5
<b>Frequency of outpatient visits (per week)</b>		
Non	14	25.5
Once	20	36.4
Twice	8	14.5
Three	10	18.2
Four	1	1.8
Five	2	3.6

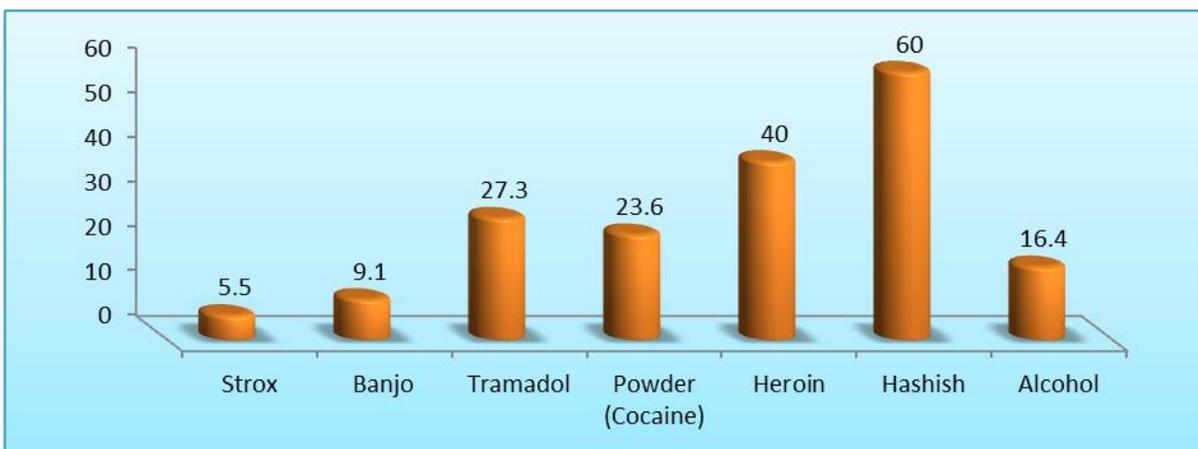


Figure (1): Percentage distribution of studied patients regarding the type of addiction.

Table (3): Frequency distribution of studied patients regarding their anxiety level through the program phases (n = 55).

Variables	Pre		Post		Follow-up	
	No	%	No	%	No	%
Very low anxiety	6	10.9	22	40.0	15	27.3
Low anxiety	11	20.0	5	9.1	6	10.9
Average anxiety	8	14.5	16	29.1	11	20.0
Above average	14	25.5	6	10.9	10	18.2
Severe anxiety	6	10.9	6	10.9	13	23.6
Very high	10	18.2	0	0.0	0	0.0
X <sup>2</sup> 1	27.26					
p-value	0.000**					
X <sup>2</sup> 2	5.920					
p-value	0.205					
X <sup>2</sup> 3	19.047					
p-value	0.002**					

X<sup>2</sup>1 between pre and post-program

X<sup>2</sup>2 between post and follow-up program

X<sup>2</sup>3 between pre and follow-up program

\*significant at p-value<0.05

\*\* Highly significant at p ≤ 0.01

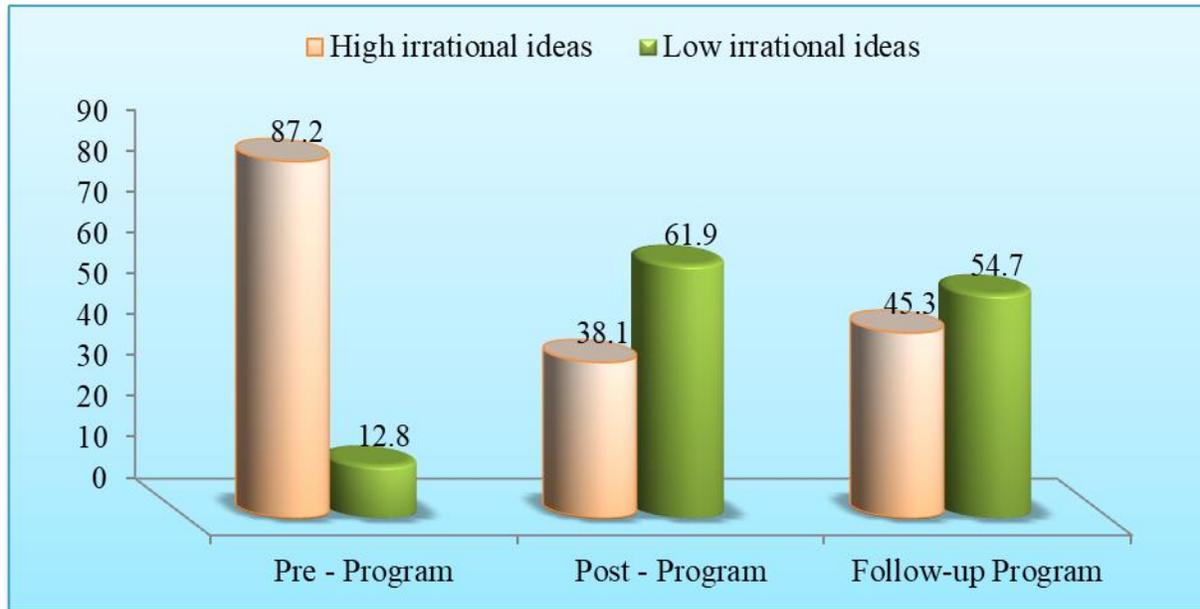


Figure (2): Percentage distribution of studied patients regarding total irrational ideas pre & post and follow-up stage of the program

Table (4): Comparison between total score of sub-irrational ideas among studied subjects at pre, post and follow-up (n = 55).

Total Irrational Ideas	Pre		Post		Follow-up		t1	p-value	t2	p-value
	Mean	±SD	Mean	±SD	Mean	±SD				
1. Accepted by every member	6.89	.49	3.32	.47	4.21	.71	38.49	.000**	22.82	.000**
2. Effective and accomplished in a perfect manner	7.45	.95	3.61	.56	4.36	1.02	25.61	.000**	16.33	.000**
3. Degree of meanness and villainy	7.54	.60	3.49	.63	4.27	.80	34.34	.000**	24.15	.000**
4. A grievous misfortune	7.18	.96	3.05	.65	3.87	.84	26.32	.000**	19.19	.000**
5. Unhappiness	6.94	.84	3.25	.61	4.21	.73	26.12	.000**	17.99	.000**
6. Great attention and constant preoccupation	6.50	1.08	2.67	1.07	3.80	1.00	18.63	.000**	13.56	.000**
7. Avoid some difficulties and responsibilities	6.96	.96	2.90	.86	3.81	1.02	23.23	.000**	16.64	.000**
8. Dependent on others	7.01	.95	3.12	.61	3.81	1.10	25.51	.000**	16.25	.000**
9. Past experiences	7.03	1.07	3.07	.87	3.56	.85	21.21	.000**	18.78	.000**
10. Upset or sad about the problems	6.56	.89	3.03	.83	4.20	1.20	21.29	.000**	11.64	.000**
11. Correct solution	7.61	1.04	2.98	1.26	3.94	1.31	20.91	.000**	16.24	.000**
12. Serious in his interactions with people	6.70	.71	2.60	.68	3.67	.98	30.89	.000**	18.56	.000**
13. The position of a man is the most important in his relationship with a woman	6.25	.96	2.50	.85	3.52	1.06	21.49	.000**	14.03	.000**
<b>Total</b>	90.7	8.43	39.65	3.71	51.29	7.59	41.05	.000**	25.73	.000**

t1 paired t-test between pre-program and post-program

t2 paired t-test between pre-program and follow-up program

\*significant at p-value<0.05

\*\* Highly significant at p ≤ 0.01

**Table (5): Correlation between total anxiety and total irrational ideas across the program phases (n = 55).**

Variables	Total anxiety					
	Pre		Post		Follow-up	
	r	p-value	r	p-value	r	p-value
Total irrational ideas	.557	.000**	-.054	.697	.496	.000**

\*Significant at  $p < 0.05$

\*\* Highly significant at  $p \leq 0.01$

**Table (6): Correlation between total anxiety and irrational ideas regarding demographic characteristics among studied subjects during the program phases (n = 55).**

Demographic characteristics		Total anxiety			Irrational ideas		
		Pre	Post	Follow-up	Pre	Post	Follow-up
Age	r	.561	.504	.349	.440	.236	.361
	p-value	.000**	.000**	.009*	.001**	.082	.007*
Marital status	r	.986	.862	.779	.269	.751	.331
	p-value	.002*	.024*	.039*	.047*	.044*	.134
Educational level	r	.632	.932	.434	.598	.099	.304
	p-value	.066	.012*	.108	.000**	.472	.024*
Occupation	r	.313	.218	.176	.303	.732	.288
	p-value	.020*	.110	.198	.141	.047*	.033
Residence	r	.385	.273	.230	.426	.151	.241
	p-value	.004*	.044*	.091	.001**	.271	.076
Income	r	.137	.197	-.006-	-.253-	-.898	-.327
	p-value	.320	.150	.968	.062	.018*	.135

\*Significant at  $p < 0.05$

\*\* Highly significant at  $p \leq 0.01$

**Table (7): Correlation between total anxiety and irrational ideas regarding addiction history among studied sample in the program phases (n = 55).**

Addiction history		Total anxiety			Irrational ideas		
		Pre	Post	Follow-up	Pre	Post	Follow-up
Years of addiction	r	.274	.821	.928	.314	-.65	-.709
	p-value	.043*	.013*	.012*	.020*	.063	.052
Recurrent of hospitalization	r	.276	.280	.156	.422	.750	.285
	p-value	.042*	.038*	.045*	.001**	.044*	.035*

\*significant at  $p < 0.05$

\*\* Highly significant at  $p \leq 0.01$

**Table (1):** Shows the demographic characteristics of patients with drug addiction. Regarding their age, it ranged between 30 to 40 or more years with a mean of  $32.60 \pm 7.94$ . Nearly one-half (49.1%) of them were single. As for education, 45.5% of them had diploma level and nearly three-quarters 74.5% of them were working. Additionally, slightly less than two-thirds (65.5%) of the studied sample reside urban areas. Considering income, approximately three-fifths of them (61.8) had sufficient income.

**Table (2):** Demonstrates that most addicted subjects under study (96.4%) were smokers. As well, in the same table nearly one-half (47.2%) of them were smoking since 10-<15 years with a mean of  $13.04 \pm 8.61$ . The same table shows that more than one-third (38.2%) of the studied sample had their addiction habit from 10 years or more with a mean of  $7.82 \pm 5.77$ . Also, more than half (54.5 %) of studied people

admitted to the hospital by a member of the family. Concerning the outpatient visit frequency of studied subjects, more than a third (36.4%) were visiting the outpatient clinic once weekly.

**Figure (1):** Displays types of addiction use. It indicates three-fifths (60.0%) of the studied sample were using hashish, while only 5.5% of them were using strox.

**Table (3):** Reveals that about one-quarter (25.5%) of the studied patients had above average of anxiety level, while slightly more than one-tenth (10.9%) of them had severe level of anxiety and less than a fifth of them had very highly severe level of anxiety. As well, the same table shows that a highly statistically significant difference regarding level of anxiety of studied patients was detected between pre-post program ( $p \leq 0.000$ ). Moreover, a statistically significant difference related to level of anxiety of

studied patients was found between pre and follow-up program ( $p \leq 0.002$ ).

**Figure (2):** Illustrates that 87.2% of studied patients had high irrational ideas at pre-program, while 61.9% of them had low irrational ideas post-program, and 54.7% of the sample had low irrational ideas at the follow-up program.

**Table (4):** Shows a comparison between total score of sub-irrational ideas among studied patients. The mean change reveals statistically significant differences between the three observations at pre, post and follow-up regarding their total sub-irrational ideas of studied patients with addiction ( $p \leq 0.000$ ).

**Table (5):** Reveals that a highly statistically significant positive correlation was found between total irrational ideas and total anxiety at pre and follow-up program ( $p \leq 0.000$ ).

**Table (6):** Indicates that highly statistically significant positive correlations were detected between age and total anxiety at pre-post-program ( $p \leq 0.000$ ) and follow-up ( $p \leq 0.001$ ). As well, highly statistically significant correlations were found between irrational ideas of studied patients' educational level ( $p \leq 0.000$ ) and residence ( $p \leq 0.001$ ) in pre-observation.

**Table (7):** Clarifies that, statistically significant correlations were found between irrational ideas of studied patients, and recurrence of hospitalization at pre/post & follow-up of the program ( $p < 0.001$ , 0.044 & 0.035 respectively), while with years of addiction, it was significant at pre-phase only ( $p < 0.020$ ). Additionally, there were significant correlations between total anxiety of studied subjects and recurrent hospitalization at pre/post and follow-up ( $p < 0.042$ , 0.038 & 0.045 respectively), and years of addiction correlations were detected through pre/post and follow-up stages of the program ( $p < 0.043$ , 0.013 & 0.012 respectively).

## Discussion

Overwhelming challenges have been caused by the rapid global expansion of drug addiction. The effects of addiction on a person's family, the community and the users themselves last for a very long time (Ambekar et al., 2019). People having anxiety problems are typically started to begin taking drug abuse to alleviate their symptoms (self-medication). However, drug use might be the cause of, or contribute to anxiety disorders owing to changes in brain biochemistry (Evren, 2020). The REBT has been employed in various fields such as education, counseling, clinical psychology and its usefulness in psychotherapy, education, and counseling mediation has been established, independent of age, mode of delivery or clinical symptoms (David et al., 2018). In the short term, REBT-based intervention with

problem-oriented and directive qualities might be employed since it converts irrational beliefs into logical beliefs, thereby changing negative emotions/behaviors (Yang & Han, 2020). Consequently, it is required to apply management to challenge or avoid this problem. Hence, the present research was established to estimate the effect of REBT on anxiety traits and irrational ideas in patients with drug addicts.

This study's results showed that, almost all of patients with drug addiction were smokers. It might be explained by the fact that nicotine enters the human body and activates the brain's nicotinic receptors when a person uses tobacco, whether by smoking cigarettes, chewing tobacco or using another kind of tobacco. The faster the nicotine enters a body, the more the additive influence on the brain. This outcome agrees with that of McInnis & Young (2015), which showed that the greatest of the patients were smokers.

The current study results showed that three-fifths of the sample were using hashish, two-fifths of studied sample were using heroin, more than one-quarter of studied patients were using tramadol, but only a minority of them were utilizing stox. This might indicate that the patient consumed more than one type of drugs. This result is in harmony with that of Degenhardt et al. (2018), who found that, the use of substance abuse disorders seems as, heroin, trailed by cocaine, cannabis and liquor. Similarly, Kabbash et al. (2022) indicated that considerably increased utilization of hashish, tramadol, cigarettes, alcohol and banjo.

Regarding level of anxiety of studied subjects' findings; the present study revealed that about one-quarter of the patients had above average of anxiety level, slightly more than one-tenth of them had severe level of anxiety and near one-sixth of them had very high level of anxiety, these findings were found before conducting the program. This might be because the risk of anxiety is significantly higher among individuals with drug dependence. Also, smoking has been found to be linked with trait anxiety. These results go in line with those of El-Hamady et al. (2020), which revealed that nearly two-thirds of substance use disorders had comorbid with anxiety disorder. Mild degree of anxiety was presenting among about one-third, followed by one-sixth of them had moderate anxiety and another one-sixth had severe anxiety.

The previous findings are congruent with those of Mohamed et al. (2020) who showed a positive relation between the occurrence of anxiety and substance-related problems caused by drug use disorder recognition tests. Considering the mutual protection pattern of this comorbidity, it is not

surprising that both anxiety and drug abuse disorders impact the course and treatment result for the counterpart situation.

The findings of the current study showed that a highly statistically significant difference was detected between pre-post program ( $p \leq 0.000$ ). As well, a statistically significant difference related to level of anxiety of studied patients between pre and follow-up program ( $p \leq 0.002$ ). This might be linked to anxiety produced from drug dependence. This outcome is congruent with that of **Mohamed et al. (2020)** who found that patients with substance misuse disorders reported higher levels of anxiety than the control group.

These previous results are consistent with those of **Schenk et al. (2020)**, who studied "The efficacy of rational emotive behavior therapy intervention in generalized anxiety disorder", their findings indicated that, a statistically significant difference was detected between pre/post-intervention phases in anxiety levels with  $P < 0.001$ . This outcome is congruent with that of **Turner & Davis (2019)**, who studied "Examining the efficacy of rational-emotive behavior therapy (REBT) on irrational beliefs and anxiety in elite youth cricketers", which indicated that REBT significantly reduced anxiety from pre-post intervention phases in three of the four participants.

According to this study outcomes, the majority of the patients under study had a high percentage of irrational thoughts before the program. These irrational beliefs and thoughts may often identify with everything in their lives in a more stressful way because irrational beliefs and thoughts have a negative impact on the patient's response. The result is in harmony with that of **Abedi et al. (2015)**, who studied "The relationships between ten of irrational beliefs and severity of addiction", the results indicated that a positive significant relation was found between the total irrational ideas score and addiction severity.

As regards the comparison between irrational ideas among the studied subjects at pre, post and follow up stages of the intervention program, the current study outcome showed that, mean changes with statistically significant differences between the three observations regarding their total irrational ideas of the studied patients ( $p \leq 0.000$ ). This result goes in line with **Schenk et al. (2020)**, who indicated that, statistically significant difference was found between the pre/post-intervention phases, for irrational cognitions with  $P < 0.05$  and for irrational beliefs with  $P < 0.01$ .

The present study results revealed that a highly statistically significant positive correlation was obvious between total irrational ideas and total anxiety pre and follow-up program ( $p \leq 0.000$ ). This indicates that when the patients have irrational

beliefs, the score of annoyance, apprehension and anxiety is raised. The researchers attempted to stimulate, motivate and communicate with participants, encouraged them to express their feelings, and taught them how to effectively practice stress management techniques. So, the REBT is a highly effective psychological intervention for patients with irrational thoughts and anxiety related to addiction.

These outcomes are congruent with **Turner & Davis (2019)**, who documented that the effectiveness of REBT in decreasing irrational beliefs and cognitive anxiety. Also, these results go in line with those of **Oltean et al. (2017)**, who studied "An empirical assessment of REBT models of psychopathology health in the prediction of anxiety and depression symptoms", they demonstrated that students with elevated levels of irrational beliefs are at risk of developing a high level of anxiety.

The current study findings showed that highly positive statistically significant positive correlations were found between age and total anxiety pre-post-program ( $p \leq 0.000$ ) and follow-up ( $p \leq 0.001$ ). This might be due to the fact that adolescent and adult substance abusers have a greater prevalence of anxiety; researchers argue that it is due to hormonal and biological variations; and others point to psychological, cultural and social variables. Furthermore, destructive interpersonal relationships can cause side effects such as blaming yourself and others, self-pity, fear, depression, anxiety, isolation, and insecurity. These findings are consistent with those of **Rajput et al. (2016)** who reported a significant relationship was detected between the prevalence of anxiety disorders and demographic factors of substance abuse including age.

As well, findings of the present study showed that, highly statistically significant correlations were found between irrational ideas of studied patients and educational level ( $p \leq 0.000$ ) and residence ( $p \leq 0.01$ ) in pre-observation. This might be attributed to the truth that the increased incidence of irrational ideas is correlated with low educational level of patients with drug addiction. This result is consistent with that of another study by **Juibari et al. (2018)**, who noticed that a statistically significant relationship was detected between the prevalence of irrational ideas among their studied group and their educational level. Patients with a low level of education (primary education, secondary education and diploma) had the highest frequency of psychiatric disorders' symptoms. The current study findings revealed that, there was a statistically significant correlation between irrational ideas of studied subjects and recurrence of hospitalization pre-program with  $p < 0.001$ . This may be due to that irrational beliefs are important in

cognitive theory and therapy. They have been revealed to be connected to anxiety and recurrent hospitalization. These results agree with those of the study carried out by **Vadar et al. (2019)**, who studied “The role of personal beliefs and cognitive avoidance in the tempting ideas of addicts who are under treatment by preventive medicine”, they revealed that there was a significant correlation between irrational ideas of patients with drug addiction and recurrence of hospitalization.

Based on the general result of current study, it was found that, the implementation of program had a positive effect on the reduction of drug abuse and promoting feelings among studied sample. This might be due to that the patients with addiction need help to overcome the use of drugs. As well, the interaction between patients and researchers during the implementation of the program supported them to recognize their feelings and thought and achieve their goals.

The findings are congruent with those of **Kurniawati & Basuki (2019)**, who revealed that an optimal REBT approach can keep patients free from drugs and even help them to live peacefully by making them think rationally and solving the root of the problem by changing the addicts’ mindset by replacing unhealthy thoughts with healthy ones. Through this process, REBT helps individuals learn to recognize emotional assessment, that is, to learn how emotions relate to positive thoughts. REBT also encourages patients to be more tolerant to themselves and others and invites them to achieve individual goals. This goal is accomplished by having people learn to think rationally to change self-destructive behavior and helping them learn new ways of behaving.

### Conclusions

Based on the results of the present study, it is possible to conclude that, the implantation of the rational-emotive behavior therapy had a great positive effect on patients with drug addiction in alleviating anxiety levels and reducing irrational thoughts, which justifies the hypothesis of the study.

### Recommendations

**Based on the results and conclusion of the current study the following recommendations are suggested:**

- Nurses and other healthcare teams in psychiatric organizations should help patients with drug addicts use rational-emotive behavior therapy to reduce their anxiety and control their irrational ideas.

- Applying the REBT as the most important prevention to reduce the level of anxiety for high-risk persons.
- Activating the mental health nurse’s role in community and family control to reduce the risk of drug abuse early as possible especially among adolescence periods.
- Designing and applying programs for adolescents based on REBT to deal with their problems in effective and rational way without using drug abuse.

### References:

- **Abedi, S., Borjali, A. & Ezzatolah, K. (2015):** The relationship between ten of irrational beliefs and severity of addiction, Department of Psychology. Indian Journal of Fundamental and Applied Life Sciences, Vol.(5), Pp. 354 - 358. Available at: [www.cibtech.org/sp.ed/jls/2015/01/jls.htm](http://www.cibtech.org/sp.ed/jls/2015/01/jls.htm).
- **Al-Murshidi, I. & Al-Tufaili, A. (2015):** Irrational ideas and their relationship with the control location for the university students. Journal of College of Basic Education, University of Babylon, Vol. (19), Pp. 22-45.
- **Al-Rayhani, S. (1985):** Development of rational and irrational ideas questionnaire. Journal of Research, Vol. (2), P.11.
- **Alsakhan, N. (2005):** Evaluation of rational and emotive therapy efficiency in decreasing anxiety and irrational thoughts degree concerning addicts slept in King Fahad Hospital in Qassim. (Unpublished Thesis) College of Graduate Studies, Department of Social Sciences, Naif Arab University for Security Sciences, Saudi Arabia.
- **Ambekar, A., Agrawal, A., Rao, R., Mishra, K., Khandelwal, K. & Chadda, K. (2019):** On behalf of the group of investigators for the national survey on extent and pattern of substance use. Magnitude of substance use in India. New Delhi: Ministry of Social Justice and Empowerment, Government of India.
- **Das, J., Salam, A., Arshad, A., Finkelstein, Y. & Bhutta, Z. (2016):** Interventions for adolescent substance abuse: An overview of systematic reviews. J Adolesc Health, Vol.(59), No.(suppl 4), Pp. S61 -75.
- **David, D., Cotet, C., Matu, S., Mogoase, C. & Stefan, S. (2018):** 50 years of rational-emotive and cognitive-behavioral therapy: A systematic review and meta-analysis. J Clin Psychol, Vol.(74), No. (3), Pp. 304 - 318. Available at: <https://doi.org/10.1002/jclp.22514>.
- **Degenhardt, L., Glantz, M. & Bharat, C. (2018):** The impact of cohort substance use upon likelihood of transitioning through stages of alcohol and cannabis use and use disorder: Findings from the

- Australian National Survey on mental health and wellbeing. *Drug Alcohol Rev*, Vol.(37), Pp. 546 - 556.
- **Ebrahim, S., Alam, F. & El-Berry, K. (2020):** The effectiveness of rational emotive therapy on stress and irrational thoughts among drug addicts; *International Journal of Novel Research in Healthcare and Nursing*, Vol.(7), Pp. 965 - 977. Available at: <https://www.noveltyjournals.com>.
  - **El-Hamady, M., El-Sayed, H., El-Bakry, S. & Youniss, M. (2020):** Prevalence of anxiety disorders in substance related disorders. *Benha Journal of Applied Sciences (BJAS)*, Vol.(5), No.(7), Pp. 105 - 109.
  - **Erskine, H., Moffitt, T. & Copeland, W. (2015):** A heavy burden on young minds: The global burden of mental and substance use disorders in children and youth. *Psychol Med*, Vol.(45), Pp. 1554 - 1563. Available at: <https://doi.org/10.26719/emhj.22.001>.
  - **Evren, C. (2020):** An overlooked combination in treatment: Addiction and social anxiety disorder comorbidity. *Dusunen Adam The Journal of Psychiatry and Neurological Sciences*, Vol.(33), Pp. 331 - 333.
  - **Fahmy, M. & Ghaly, M. (1993):** Quote and development of Taylor manifest anxiety scale in Egyptian culture. In S., Yaseen, (2015): Psychometric efficiency of Beck scale for anxiety on a sample of normal people and psychopaths. Thesis in master's degree in educational and Psychological Evaluation and Measurement, Faculty of Education, Damascus University.
  - **Guy-Evans, O. (2022):** What is rational emotive behavior therapy (REBT)? *Simply Psychology*. Available at: <https://www.simplypsychology.org/rational-emotive-behavior-therapy.html>.
  - **Hussin, M., Othman, K., Hussin, N. & Alias, A. (2018):** The effect of brief cognitive behavioral therapy group intervention on self-esteem among drug users, *MATEC Web of Conference*, Vol.(150), [MUCET 2017].
  - **Hoffman, D., Dukes, E. & Wittchen, H. (2017):** Human and economic burden generalized anxiety disorder. *Depress Anxiety*, Vol.(25), Pp. 72 - 90.
  - **Juibari, T., Behrouz, B., Attaie, T., Farnia, V., Golshani, S. & Alikhani, M. (2018):** Characteristics and correlates of psychiatric problems in wives of men with substance-related disorders, *Kermanshah, Iran. Oman Med J*, Vol.(33), No.(6), Pp. 512 - 519. Available at: <https://doi.org/10.5001/omj.2018.93>.
  - **Kabbash, I., Zidan, O. & Saied, S. (2022):** Substance abuse among university students in Egypt: Prevalence and correlates. *Eastern Mediterranean Health Journal*, Vol.(28), Pp. 31-40.
  - **Kurniawati, D. & Basuki, A. (2019):** Implementation of REBT for drug addicts: Meta-analysis, *advances in social science. Education and Humanities Research*, 462 Proceedings of the 2nd International Seminar on Guidance and Counseling 2019 (ISGC 2019).
  - **McInnis, A. & Young, M (2015):** Urban and rural student substance use. Ottawa, Ontario: Canadian Centre on Substance Abuse.
  - **Mewton, L., Teesson, M., Nicola, C., Newton, T., Chapman, C., Mather, M., Hides, L., McBride, N., Allsop, S. & Gavin, T. (2020):** Combined prevention for substance use, depression, and anxiety in adolescence: A cluster-randomized controlled trial of a digital online intervention. The Matilda Centre for Research in Mental Health and Substance Use, University of Sydney, NSW, Australia. Available at: [https://doi.org/10.1016/S2589-7500\(19\)30213-4](https://doi.org/10.1016/S2589-7500(19)30213-4).
  - **Mohamed, I., Ahmad, H., Hassaan, S. & Hassan, S. (2020):** Assessment of anxiety and depression among substance use disorder patients: A case-control study. *Middle East Current Psychiatry*, Vol.(27), P. 22. Available at: <https://doi.org/10.1186/s43045-020-00029-w>.
  - **Oltean, H., Hyland, P., Vallières, F. & David, D. (2017):** An empirical assessment of REBT models of psychopathology health in the prediction of anxiety and depression symptoms. *Behav Cogn Psychother*, Vol.(45), No.(6), Pp. 600 - 615.
  - **Ostrovsky, N., Swencionis, C., Wylie-Rosett, J. & Isasi, C. (2013):** Social anxiety, and disordered overeating: An association among overweight and obese individuals. *Eat Behav*, Vol.(14), Pp. 145 - 148. Available at: <https://doi.org/10.1016/j.eatbeh.2013.01.009>.
  - **Rajput, R., Gehlawat, P., Gehlan, D., Gupta, R. & Rajput, M. (2016):** Prevalence and predictors of depression and anxiety in patients of diabetes mellitus in a tertiary care center. *Indian J Endocrinol Metab*, Vol.(20), No.(6), Pp.746 - 751. Available at: <https://doi.org/10.4103/2230-8210.192924>.
  - **Robichaud, M., Koerner, N. & Douglas, M. (2019):** Cognitive behavioral treatment for generalized anxiety disorder, from science and practice, second edition. Routledge, New York.
  - **Schenk, A., Popa, C., Olah, P., Suci, N. & Cojocar, C. (2020):** The efficacy of rational

emotive behavior therapy intervention in generalized anxiety disorder. *Acta Marisiensis-Seria Medica*, Vol.(66), No.(4), Pp. 148 - 151. Available at: <https://doi.org/10.2478/amma-2020-0027>.

- **Taylor, J. (1953):** Taylor Manifest Anxiety Scale in a personality scale of manifest anxiety. *The Journal of Abnormal and Social Psychology*, Vol.(48) No.(2), Pp. 285 - 290.
- **Turner, J. & Davis, S. (2019):** Exploring the effects of rational emotive behavior therapy on the irrational beliefs and self-determined motivation of triathletes. *Journal of Applied Sport Psychology*, Vol.(31), No.(3), Pp. 253-272.
- **Vadar, Z., Sajjadi, F., Hajiyar, H., Zanoon, K. & Rozi, S. (2019):** The role of personal beliefs and cognitive avoidance in the tempting ideas of addicts who are under treatment by preventive medicine. *Int J Sch Cogn Psychol*, Vol.(6), P. 218. Available at: <https://doi.org/10.35248/2469-9837.19.6.218>.
- **WHO (2018):** International standards for the treatment of drug use disorders. Available at: [https://www.unodc.org/documents/drug-prevention-and-treatment/UNODC-WHO\\_International\\_Standards\\_Treatment\\_Drug\\_Use\\_Disorders\\_2020.pdf](https://www.unodc.org/documents/drug-prevention-and-treatment/UNODC-WHO_International_Standards_Treatment_Drug_Use_Disorders_2020.pdf).
- **World Drug Report (2021):** Pandemic effects ramp up drug risks, as youth underestimate cannabis dangers; June UNODC242021.
- **Yang, J. & Han, K. (2020):** A rational emotive behavior therapy-based intervention for binge eating behavior management among female students: A quasi-experimental study. *Journal of Eating Disorders*, Vol.(8), No.(65), Pp. 1-12. Available at: <https://doi.org/10.1186/s40337-020-00347-8>.