



Effectiveness of Group Rational Emotive Behavioral Therapy on Frequency of Substance Use and Depression among Substance Use Disorder Patients in Nigeria.

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Abstract

Substance use disorder is a global problem that can have a detrimental impact on individuals' health and professional lives. While the effect of *group rational emotive behavioral therapy* has been reported in most Western countries, little is known about the effectiveness of *group rational emotive behavioral therapy on the frequency of substance use and depression among substance use disorder patients in Nigeria*. This study investigated the efficacy of a 10-week group REBT on depression among substance use disorder patients in Nigeria. The study also adopted a randomized controlled pre-test and post-test design. Twenty substance use disorder patients were randomly assigned to two groups: GREBT Group ($n = 10$) and the Control Group ($n=10$). The GREBT group received 10-week 90-minute GREBT sessions once a week while CG was kept busy by the nurses with daily routine activities during experimental sessions. The assessment was carried out for both groups at baseline (pre-test), after the intervention (post-test), and one-month follow-up with measures of the Psychoactive Substance Use Questionnaire (PSUQ) and the Center for Epidemiological Studies Depression Scale (CES-D). The results showed that participants in the GREBT group had decreased frequency of substance intake and depressive symptoms at post-treatment and one-month follow-up compared to the participants in the CG. GREBT provided strong evidence on the frequency of substance use at post-treatment and one-month follow-up. Constant practice of GREBT led to a significant change in the frequency of substance use. It was suggested that comprehensive treatment and proper management of the patients significantly change the frequency of substance use. The implications of the study were discussed in line with the use of psychological treatments such as GREBT in the management of substance use disorder and depression among substance use disorder patients. This treatment is highly needed in hospitals where drug patients receive treatment.

Keywords: Group Rational Emotive Behaviour Therapy, Frequency of Substance Use, Depression, Substance use disorder Patients

Introduction

Substance use disorder is a global problem that can have a detrimental impact on health, family, schools, culture, and professional life (United Nations Office on Drug and Crime., 2018; Babalola, Akihanmi, & Ogunwale, 2014). The burden of substance use disorder is

becoming enormous and is considered one of the most severe issues posing environmental, economic, physical, and psychological challenges in our society today. Despite the international and national laws in place, this disorder is emerging as a serious public health concern. In Nigeria, the establishment of various government agencies (National Drug Law Enforcement Agency,(NDLEA), Drug Demand Reduction,(DDR), and Nigeria Drug Control Master Plan, (NDCMP) responsible for drug control and the use of punitive measures or Judiciary punishment to prevent the menace of substance use, did not yield desired result (Ugwoke, Mfon, & Dauda, 2019). United Nations Office on Drugs and Crime (2018) observed that in Nigeria, among the six geopolitical zones, the North West has the highest number of individuals who abuse drugs. United Nations Office on Drugs and Crime (2019) has also estimated that 271 people worldwide who have issues with drug are within the age range of 15-64 years.

The fact remains that excessive substance use does not only impact negatively towards the ability to handle mental tasks but also predisposes individuals to physical ill-health conditions and they are likely to have complex medical conditions or likely to die earlier than those without substance use disorder (UNODC,2018; Steryl & Philip, 2011) Thus, the consequences of this condition both for the individual and society make the search for a remediation paradigm very important. The rapid economic, social, and cultural transitions that most countries in Africa especially Nigeria are now undergoing, have provided a favorable climate for increased maladaptive use of psychoactive drugs (Tsefaye, Drese, Hambia, 2014). According to UNODC (2018), the comorbidity of drug use and mental health disorders are related to difficulty in managing patients and it leads to a higher rate of psychiatry hospitalization and a higher prevalence of suicide than those without a comorbid mental disorder; hence. Adeyemo, Ohaeri, Ukpala, and Oghale (2016), found that abusers are mostly young Nigerians who have been deprived of parental supervision and warmth from infancy.

Depression is one of the variables of interest in the study and is common in people suffering from substance use disorders (Wani & Sankar, 2016), about one-third to half of the people who have substance use disorder once in a lifetime were diagnosed with major depressive disorder (APA, 2013). There is also a strong association between depressive episodes and drug use disorder and most drug users have poor self-esteem, distorted self-concept, highly reactive depression and high insecurity levels (Mossie, Kindu & Negash (2016). Due to the negative effect of excessive substance use and the strong association between depressive episodes and drug use disorder, there is a need for more studies on drug use disorder and depression to map out appropriate preventive and intervention programs. The major treatment paradigm for substance use disorder is chemotherapy, yet evidence has shown that antipsychotics alone cannot be relied on for complete recovery (Collins, Jones, Hoffmann, Nelson, Hawes, Grazioli, Clifasefi (2016).

This present study employed group rational emotive behavioral therapy in the management of the frequency of substance use, and depression among substance use disorder patients. Elli's (1955, 1962) REBT posits that abnormal emotional and overt behavioral disorders are maintained by the interpretation people give to events in their lives. That is, one can become depressed as a result of one's interpretation of events in their life. According to Ellis (1962), one or more core irrational thoughts are specific to and at the root of most psychological maladjustment. Ellis and Dryden (1997) also noted that group REBT is usually employed in a small group of 8 to 10 clients and may be done with a larger group of 20 to 30 people. REBT groups usually meet once a week for 90 minutes and members stay in the group for 2 months, 3 months, or 6 months depending on the severity of their problems. Group members are also engaged in after-group sessions and through group REBT they get considerable help with their emotional problems. REBT favors both groups as well as individual sessions (Ellis & Dryden 1997). Rational emotive behavior therapy of Ellis is based on the fundamental assumption that psychological disorders are maintained by distorted cognition and the therapy focuses on modifying maladaptive cognitions and cognitive restructuring. Rational emotive behavior therapy primarily relies on direct instruction, persuasion, and logical disputation. They are well-known therapy that uses cognitive restructuring to eliminate or change internal thoughts, and believe that cause such emotional disorders as anxiety, depression, anger, guilt, and so on. It aims to alter the ill-adaptive thought mechanisms of a client, on which disordered emotional responses and thus behavior are believed to rely (Ellis 1958,1957, 1962,1989; Ellis & Dryden, 1997).

Although group rational emotive behavior therapy (REBT & CBT) has been applied in the management of substance use disorder patients and researchers have studied similar cases (Obi-Nwosu, Baleguel, Nwafor, & Onyemaechi, 2019; Khorasani, Alamdarloo, Najafi, Jabbari & Shojaee, 2019; Haghghat, & Mohammadi, 2019; Bador & Kerekes's, 2020), few studies have studied group rational emotive behavior therapy to observe its effects on the frequency of substance use disorder patients who are depressed. This therapy may make a more significant difference from the therapy previously used by others. Furthermore, rational emotive behavior therapy is always used as individual therapy and is found to be effective but each case may take the therapist three to four-month implying a heavy burden or strain on the therapist and the economy of the families. With the rising cases in hospitals and society, the need for treatment modalities that can effectively handle more cases at a time with good results becomes important. It hence becomes a pertinent research interest to investigate how group rational emotive behavior therapy is going to benefit and reduce the frequency of substance use and depression among substance use disorder patients in Nigeria. The following hypothesis will be tested in this study: Participants who receive group rational emotive behavior therapy will show significant remission in the frequency of substance use compared with those in the control group at post-treatment; Participants

who receive group rational emotive behavior therapy will show significant remission of depressive symptoms compared with those in the control group at post-treatment; Participants who receive group rational emotive behavior therapy will show significant remission in the frequency of substance use compared with those in the control group at one-month follow-up and participants who receive group rational emotive behavior therapy will show significant remission of depressive symptoms compared with those in the control group at a one-month follow-up.

Method

Participants

The sample consisted of 20 substance use disorder patients (males and females) at Karu General Hospital, Abuja Nigeria, who were diagnosed with substance use disorder and depression. The participants were outpatients receiving treatment in the hospital. Simple random sampling was used to assign the participants to various treatment conditions (10 GCBT and 10 Control group) and their age ranges from 18yrs and 60yrs ($M = 12.80$, $SD = 2.15$) for REBT and ($M = 18.40$, $SD = 8.49$) for CG. Participants include students, workers, and unemployed who cannot cope without taking drugs and they had to meet the inclusion and exclusion criteria and complete the pre-treatment, post-treatment, and one-month follow-up assessment. The inclusion criteria for the study were: 1) ability to speak and understand English; 2) ability to read and write; must be substance use disorder outpatients that have been diagnosed with substance use disorder, depression, and receiving treatment from the hospital; 3) must participate in the study voluntarily, and have a clinical significant need for psychological intervention; 4) participants should include both males and females who are students, workers, and employed/ unemployed provided they cannot cope without taking drugs and are within 18yrs to 60yrs; 5) must have abused one or more of the ten classes of drug abuse according to DSM-5.

The exclusion criteria for the study were: 1) being diagnosed with any severe mental health problem (e.g. psychotic disorders); 2) having any co-morbid health condition (e.g. hypertension, diabetes); 3) engaging in anything that may affect and confound the results of the research; 4) Patients who are not stable; 5) patients who did not give consent to the study will be excluded from the study. Written informed consent letter was obtained from all participants in the study. (90%) were students. The study was approved by the Federal Capital Territory, Health Research Ethical Committee, Abuja-Nigeria (FCT HREC).

Instruments

The Psychoactive Substance Use Questionnaire (PSUQ, Eze, 2006). PSUQ is a 7-item measure that assesses the frequency of the use of psychoactive substances on specific substances like alcohol, cannabis, tobacco, cocaine, heroin, amphetamine, and others. The

measure is rated on a 5-point response format of 0 (never used before), 1 (Not more than 2 times), 2 (Less than 3 times in one week), 3 (More than 3 times in one week) to 4 (used it frequently but has stopped); and directly scored by adding up the score of each participant. Cronbach α .74 was reported by Eze, Chukwuorji, Idoko, & Ifeagwazi, (2020); and Chukwuorji, et al (2020) reported Cronbach α of .71.

Center for Epidemiologic Studies Depression scale (CES-D; Radloff, 1977). CES-D is a 20-item scale that helps to measure 4 primary symptom dimensions and their intensity at a specific point: depressed affect (dysphoric experiences(5 items), positive affect (optimistic and happy feelings (4 items), somatic/retarded/ vegetative activity (problems with sleep, appetite, concentration, and energy (7 items) and interpersonal symptoms (perceptions of others as being unfriendly and disliking the respondents (4 items). Scores ranged from 0 – 60 with higher scores indicating more symptoms of depression. A Cronbach's alpha of .64 was reported by Ifeagwazi, Obi, Udensi, and Chukwuorji (2014) and Kokou-Kpolou et al (2020) conducted confirmatory factor analyses (CFAs) showed that one, two, and three-dimensional structures of CES-D were tenable, however, the latter model appeared to be the best-fitting model to the data reflecting cognitive-affective, physical, and self-destructive components.

Procedure

At Karu General Hospital, Abuja, 36 outpatients who agreed to participate in the study were recruited. Thirty-two met the inclusion criteria for the study. Four were excluded from the study for the following reasons—Not understanding English (1), Not stable (2), Having Comorbid health conditions (3), and severe mental health problems (4). One of the participants noted that they will not continue because the parent wants them to quit their current university and travel to Canada where they have gained admission for them. The remaining 32 met the inclusion criteria but two declined and 30 participants filled informed consent form and were randomly assigned to GREBT and CG' the participants in GREBT (GREBT, n = 15) and CG (CG, n = 15). Participants in the GREBT program had 10 weeks of group rational emotive behavioral therapy each week lasting for 90 minutes. Participants in the control group were kept busy by the nurses with daily routine activities during experimental sessions. Both groups were assessed at the baseline (pre-test), immediately after intervention (post-test), and one-month follow-up. During 10-week sessions for the GREBT, 3 participants dropped out from the GREBT group whereas 4 participants withdrew from the control group. After 10 weeks of therapy, 23 participants (GREBT = 12, CG = 11) completed the full sessions and post-test assessment. A total of 20 participants completed the one-month follow-up assessment (GREBT, 10; CG, 10), 2 participants dropped in the GREBT group while one participant dropped from the control group.

INTERVENTIONS

The GREBT package was a closed 10 sessions of treatment with one session a week for 90 minutes. The GREBT focused on modifying maladaptive cognitions and cognitive restructuring. They use cognitive restructuring to eliminate or change internal thought beliefs that cause excessive drug intake and emotional disturbance (depression). They also rely on direct instruction, persuasion, and logical dispute and through this means guide participants towards identifying their pattern of maladaptive thinking and core irrational belief. For instance, disputing irrational thoughts, doing cognitive homework, and changing one language (must, should, ought). Emotive techniques are rational-emotive imagery, and role-playing. The behavior strategies involve teaching participants varieties of behavioral coping strategies like effective communication skills/assertiveness techniques, unconditional acceptance, modeling, and behavioral home assignments were carried in a real-life situation. All the participants will be allowed to express their ideas and problems within the group.

In sessions 1 to 4, cognitive restructuring was introduced within the first three sessions. Participants were guided to identify their pattern of maladaptive thinking and core irrational beliefs through the use of the ABC model (A: Activating event, B: Belief, C: Consequences) of Ellis (1962). The ABC framework of Ellis illustrates the theory behind some disorders such as depression and substance use disorder in explaining the ABC connections. Ellis posits that events produce either positive or negative consequences. Thus, an individual who engages in irrational belief concerning an activating event will be more susceptible to the development of emotional disorders including depression or excessive substance use compared to an individual with rational belief.

In sessions 4 and 5, the interaction between activating events was dealt with in the fourth and fifth sessions and they were guided on how to use it and do their assignment at home. They were also taught how to use the activity schedule at home.

In session 6/7, they were trained on how to separate their behavior from their personality. In session 7, there was an introduction of rational error, challenging the error of catastrophizing. The participants were guided on how to challenge and modify maladaptive thoughts by using the ABCDEF sheet.

In session 8/9, discussion on unconditional acceptance: the naturalization of making mistakes by human beings

Session 10, integration of ABCDEF model where A – activating event, B = Belief, C = (behavior and emotional) consequences, D = Disputing. E = Effect, F = Feeling. The review of all that was done during sessions was presented and the participants discussed assertiveness and the benefit of the program as a whole.

The table below displays the summary of the content of each session

Contents of the sessions for 10 weeks a Group Rational Emotive Behaviour Therapy

Sessions	Contents of Sessions	Homework
1	Introduction between therapist and patients and establishment of rapport/introduction of GREBT and overview of the program	Write down the substance use, reasons for abusing the drugs, and personal experience on how the substance affects their mood
2	Exploring the role played by 'must' and irrational beliefs in the creation of expectations: making explicit the role played by one's thoughts and feelings in the creation of behavior.	Giving them an extraction (on the role played by 'must and irrational belief) from a book named The Practice of Rational Emotive Behavior Therapy by Ellis & Dryden, 1997 to study at home
3	Introduction of the model ABC, exercise regarding the role played by one's thought in his /her feelings and behavior	ABC sheet was given to connect their thought, events, and behavior
4	Discussing rational and irrational beliefs; instructions on how to recognize rational from irrational beliefs	They should use the ABC sheet to identify irrational beliefs.
5	Discussing irrational belief (continued) and introduction of activity scheduling. Participants rated each activity on Master (M) and Pleasure(P). From 0 - 10 (0 = lowest, 10 = highest) ABC connection was used to explain the reason behind each low rating	Using an activity scheduling sheet to record the daily activity and rating them on mastery and pleasure
6	The training aimed at separating behavior and personality and gave them activity scheduling.	The practice of rational emotive imagery and role-playing. Rating of activity schedule
7	Introduction of rational errors of catastrophizing	The use of the ABCDEF sheet to identify challenging irrational thoughts, replace alternative positive emotions and more functional feelings and behaviors
8	Discussion on acceptance of others and introduction of empirical testing of their worst concern towards (excessive substance use and depression) their condition.	Using the ABCDEF sheet for practices by disputing irrational thoughts and showing empirical/reality testing of the worst concern
9	Discussion on acceptance of others and introduction of empirical testing continue	Using the ABCDEF sheet for practices by disputing irrational thoughts and showing empirical/reality testing of the worst concern

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- 10 Integration of the ABCDEF model, Monitoring thought and the use of discussion on Assertiveness, and general ABCDEF review of all the program
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Design and Statistics

The study adopted a randomized control group pre-test design. Randomization was done for the eligible participants only and was conducted using paper in a bowl in which treatment procedure was noted. All study-eligible participants were assigned randomly to either the experimental and control group. The participants remained in the experimental and control group throughout the study. All analyses were performed using SPSS version 23.

Results

Table 1: Descriptive statistics for the post-treatment scores in substance use, and depression for the GREBT and control groups

	Group	Mean	Std. Deviation	N
Substance use	GREBT	16.50	4.09	10
	Control	20.70	3.23	10
	Total	19.13	3.76	20
Depression	GREBT	19.50	1.35	10
	Control	40.40	1.89	10
	Total	25.83	10.95	20

Results in Table 1 showed that for substance use, the post-treatment scores of the participants in the various groups were as follows: GREBT (Mean = 16.50, *SD* = 4.09), Control group (Mean = 20.70, *SD* = 3.23). For depression, the post-treatment scores of the participants in the various groups were as follows: GREBT (Mean = 19.50, *SD* = 1.35), Control group (Mean = 40.40, *SD* = 1.89).

Table 2: Tests of between-subjects effects of GREBT on post-treatment substance use, and depression scores

Source	Dependent Variable	Type III Sum of Squares	df	Mean Square	F	Partial Eta Squared
Group	Substance Use	105.27	1	52.63	4.61*	.26
	Depression	3200.87	1	1600.43	156.96***	.92
Error	Substance Use	308.20	28	11.42		
	Depression	275.30	28	10.20		
Total	Substance Use	11396.00	30			
	Depression	23497.00	30			
Corrected Total	Substance Use	413.47	29			
	Depression	3476.17	29			

Note. *** $p < .001$; * $p < .05$

Results in Table 2 showed that there was a significant difference in the post-treatment substance use scores of participants in the two groups, $F(1, 20) = 4.61$, $p < .05$. At post-treatment, participants who received GREBT reported lower substance use compared to those in the control group ($MD = -4.20$). The effect size of the group differences was .26. There was a significant difference in the post-treatment depression scores of participants in the two groups, $F(1, 20) = 156.96$, $p < .001$, with an effect size of .92. There was less depression among those in the GREBT group compared to the control group ($MD = -20.90$, $p < .001$).

Table 3: Descriptive statistics for the scores in substance use, and depression for the GREBT and control groups at follow-up

	Group	Mean	Std. Deviation	N
Substance Use	GREBT	10.20	3.91	10
	Control	20.90	3.48	10
	Total	16.50	5.74	20
Depression	GREBT	9.20	2.35	10
	Control	40.70	1.77	10

Results in Table 4 for the follow-up assessment showed that substance use among participants in the various groups was as follows: GREBT (Mean = 10.20, $SD = 3.91$), Control group (Mean = 20.90, $SD = 3.48$). For depression, the scores of the participants in the various groups at follow-up were as follows: GREBT (Mean = 9.20, $SD = 2.35$), Control group (Mean = 40.70, $SD = 1.77$).

Table 4: Tests of between-subjects effects of the group on post-treatment substance use, and depression scores

Source	Dependent Variable	Type III Sum of Squares	df	Mean Square	<i>F</i>	Partial Eta Squared
Group	Substance use	626.60	2	313.30	25.72***	.66
	Depression	5634.60	2	2817.30	329.87***	.96
Error	Substance use	328.90	27	12.18		
	Depression	230.60	27	8.54		
Total	Substance Use	9123.00	20			
	Depression	19862.00	20			
Corrected Total	Substance	955.50	19			
	Depression	5865.20	19			

Note. *** $p < .001$; ** $p < .01$; * $p < .05$

Results in Table 4 showed that there was a significant difference in the substance use scores of participants in the two groups at follow-up, $F(2, 27) = 25.72$, $p < .001$. Participants who received GREBT reported lower substance use compared to those in the control group ($MD = -10.70$). The effect size of the group differences was .66. There was a significant difference in the depression scores of participants in the two groups at follow-up, $F(2, 27) = 329.87$, $p < .001$, with an effect size of .96. Depression among participants who

received GREBT was significantly lower compared to depression among those in the control group ($MD = -31.50, p < .001$).

Discussion

The study investigated the effectiveness of group rational emotive behavior therapy on the frequency of substance use and depression among substance use disorder patients. The following hypothesis was tested in this study (a) Participants who receive group rational emotive behavior therapy will show significant remission in the frequency of substance use compared with those in the control group at post-treatment (b) Participants who receive group rational emotive behavior therapy will show significant remission of depressive symptoms compared with those in the control group at post-treatment (c) Participants who receive group rational emotive behavior therapy will show significant remission in the frequency of substance use compared with those in the control group at a one-month follow-up. (d) Participants who receive group rational emotive behavior therapy will show significant remission of depressive symptoms compared with those in the control group at a one-month follow-up.

The first and third hypothesis was accepted. The result of the study is in line with cognitive-affective theories (e.g. Theory of Reasoned Action, Ajzen & Fishbein, 1980; Ajzen, 1985), they posited that the root of SUD is found in individuals' beliefs about substance, and when these beliefs are directed rightly, SUD will be prevented or managed better. According to the theories, challenging one's perception of substance use disorder's normative nature would change one's beliefs and intentions regarding future substance intake, thereby making their beliefs and intentions build up a new rational way of behaving. The result is also in line with the study of Obi-Nwosu, Nwafor, and Onyemeachi, (2019), REBT reduced the tendency to relapse among substance use disorder patients.

In the second and fourth hypotheses, the result of the study indicated that those who received GREBT had a significant reduction in depression compared to participants in the control group and one-month follow-up. The result is in line with previous studies (Alamdarloo, et al 2019; Haghghat, & Mohammadi, 2019; Bador & Kerekes 2020), which

found that GCBT had a significant reduction in depression among substance use disorder patients. Elli's theory also shows that the way individuals interpret an event is the core of all disorders. GREBT which aims at modifying patients' maladaptive thought processes is efficacious and was effective in managing patients with depression in this study.

The result of this study has several implications for clinical practice and research, especially in developing countries like Nigeria. It will benefit individuals by improving their health-related quality of life. Society at large will seek psychologist assistance in managing their relations instead of associating the disorder with a spiritual case. Policymakers in Nigeria will understand that drug use disorder patients need health professionals rather than judiciary punishment. Based on the findings, the study is recommended to health professionals, non-governmental organizations, and medical personnel. They should employ GREBT and other psychotherapy in managing substance use disorder patients in neuro-psychiatric hospitals, prisons, and schools. Workshops and seminars should be organized to train and retrain clinicians to become experts in GREBT and other Psychotherapies.

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