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Emotional Regulation, Level of Depression, Anxiety and Stress among Alcohol Abusers and Non-abusers

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Abstract

The study was to examine the levels of depression anxiety and stress, as well as emotion regulation strategies among alcohol abusers and non-abusers. One hundred and fifty alcohol abusers who were admitted in department of psychiatry ward in hospital and one hundred and fifty normal people who were in general population were enrolled in the study. Depression, anxiety and stress scale (DASS-42) and emotional regulation questionnaires were used to assesses the depression, anxiety and stress reaction and emotional regulation of alcohol abusers and non-abusers. Alcohol abusers had higher level of depression, anxiety and stress reaction, as well as lower level of cognitive reappraisal and higher level of suppression compared with normal people. Cognitive reappraisal and suppression had significantly negative correlation with depression, anxiety and stress reaction in healthy people while they had no significantly correlation with depression, anxiety and stress reaction in abuser group. Further, both cognitive reappraisal and suppression significantly predicated depression, anxiety and stress reaction in healthy people while they did not predicate depression, anxiety and stress in alcohol abusers. Alcohol abusers had obvious depression, anxiety and stress reaction, as well as inappropriate copying strategies. Both cognitive reappraisal and suppression could predicate negative emotion and stress reaction in normal population but the emotional regulation failed to predicate negative emotion and stress reaction in alcohol abusers.

Keywords: Depression, Anxiety, Stress, Expressive Suppression, Cognitive Reappraisal, Abusers.

Introduction

Alcohol abuse and dependence is one of the most common psychiatric disorders in the United States (Chen et al., 2006).An important factor in many of these diagnoses seems to be the difficulty of regulating emotions. Drinking to regulate negative emotions has been considered by theory as the strongest motivation associated with the problem of alcohol participation (Sher & Grekin, 2007). Alcoholism has worsened as a result of the complex socio-economic challenges of unemployment, poverty and crime in general. Too many young people seem to think that alcohol experimentation is an acceptable part of adulthood. Little attention to the negative effects of dependence on alcohol (Madu & Matla, 2003). Adolescence is a transitional phase of physical and mental development in which teenagers engage in risky behaviors, such as drinking (Miller et al., 2007). Adolescence is using alcohol in common places (Hibell et al., 2012).There is evidence that its extreme forms of dangerous and harmful alcohol consumption, such as frequent drinking, alcoholism, and intense seizures (binge drinking) have increased in recent years among teens and young adults (World Health Organization, 2011). A study conducted by Tay et al., (2016) between

non-psychiatric inpatients found that 2.8% of patients with previous year alcohol use scored beyond the risky levels for the Alcohol Use Disorders Identification Test (AUDIT). Risky behavior, alcohol use (Mason et al., 2008) and misuse (Hoel et al., 2004). It is also associated with negative mental and psychological health outcomes during adolescence. For example, previous studies have shown that adolescent alcohol abuse is closely related to behavioral disorders, anxiety, depression and suicidal behavior (Marmorstein et al., 2010; Miller et al., 2007).There is also a need to better understand the relationship between adolescent drinking and psychological distress, not only because depression is a major problem that is generally overlooked in this age group, but also because it is becoming a growing problem of adolescent public health rights. On a global scale, neurological disorders (primarily a single extreme depression) are the main causes of disability in people over 10 to 24 years of age (Gore et al., 2011). Alcohol consumption is a risk factor for the development of depression. Therefore, more attention should be paid to the use of alcohol in the general population and the evaluation of the past alcohol use history of depressive patients (Lee et al., 2018). The biological hypothesis suggests that the high common disease and depression can be mediated by dysfunction of the hypothalamic–pituitary–adrenal (HPA) axis, which is often found in the AUD or depressive patients (Sadock et al., 2015).

Alcohol dependence is associated with the difficulty of discovering self-emotion (a central feature of Alexithymia) (deTimary et al., 2013), humor conception (Uekermann et al., 2007), idea of mind (Maurage et al., 2011), emotional identification (Martinotti et al., 2009), emotional cleverness (Uva et al., 2010), and classifying emotions expressed by faces (Foisy et al., 2007), and tune (Kornreich et al., 2013). It has been suggested that these emotional barriers can explain the difficulties of alcoholics in interpersonal relationships (Philippot et al., 2003). Litt et al (1990) suggested that alcoholics are receptive to negative emotions; they were judged to have higher alcohol cravings than those who received neutral emotion. Similarly, studies have shown a strong correlation between alcohol recurrence and emotional distress (Cornelius et al., 2003). In short, alcohol has been shown to reduce the stress and negative effects of some stress or emotional situations that stimulate alcohol consumption.

Primary abstinence from alcohol is associated with changes in nerve stress and reward systems, which can include atrophy of cortical and frontomesalregions (Bartsch et al., 2007). In addition, recent imaging studies have shown that these brain regions are also associated with experience and emotional regulation (Ochsner & Gross, 2005).

Emotional researchers have identified stable individual differences associated with positive and negative effects in the emotional adjustment strategy (John & Gross, 2004). Emotional regulation refers to the way in which people have their own emotional type, the moment they have them, and how these feelings are experienced or expressed (Gross & Thompson, 2007). Consistent with these findings, the clinical population uses more reactive modulation and less cognitive changes than the intended population (Kimhy et al., 2012; Joormann & Gotlib, 2010) (for example, anxiety and mood disorders) (schizophrenia). However, few studies have been conducted on the emotional adjustment of alcohol-dependent in individuals (Berking & Wupperman, 2012). There is no study on the theory derived from the framework, in a research paradigm of multiple emotional adjustment strategies to investigate. As a result, few people know about the specific mood-regulating habits of alcohol-dependent in individuals and Needs to be investigated to determine whether there is a low frequency with their healthy peers, individuals with alcohol dependence on excessive response modulation and implementation of the cognitive regulation. Therefore, the main objective of this study is to provide a precise insight into the mood disorders in patients with alcohol dependence (AD). Imaging studies of alcoholics suggest that the mechanisms that desire regulation

involve neural circuitry associated with regulating other emotions (Kober et al., 2010; Fox et al., 2008).

In the case of alcoholism, the long-term abstinence has a wide connection with the improvement of different functional areas (Uva et al., 2010). Including the emotional field. Abstinence is associated with low depression and anxiety symptoms (deTimary et al., 2013), regularization of emotional intensity appraisal (Kornreich et al., 2013), decreases in distress (Uva et al., 2010) and raise awareness and clear emotional experience (Fox et al., 2008). Therefore, in the process of emotional adjustment strategies for AD patients, the focus is on abstinence at different stages after detoxification.

Emotional regulation related to the way in which humans control their experience and expression of emotion underneath distress such as suppression, repression and cognitive reappraisal (Gross, 2002). It is worth noting that these strategies are psychologically hard, that there may be conflicting management goals under stress, and that attention is shifted to more direct and achievable goals (Tice et al., 2001). While alcohol-related changes in mood, stress, and reward-related brain regions have been amply proven difficult, emotional regulation (ER) has not been fully evaluated.

The purpose of the present study is to explore the emotional regulation, level of depression, anxiety, and stress among alcohol abusers and non-abusers of Pakistani peoples. The present study first hypothesized that compared to healthy controls, and alcohol abusers would endorse greater frequency of use of response modulation, but lesser use of cognitive change. Alcohol abusers have higher depression, anxiety and stress level than non-abusers. In addition, alcohol abusers have low cognitive reappraisal level than non-abusers and Alcohol abusers have higher expressive suppression level than non-abusers (Balogun et al., 2013).

It seems that apart from depression, anxiety stress may play a role in patients' Alcohol abuse. Numerous factors, including the types of social stress, economic, and psychological has effects of addiction. Physiological aspect of stress is anxiety. Distress is an unpleasant emotional experience, and can naturally arise for instance in the case of a person with chronic illnesses over time in the family, gradually he loses the sympathy from the family and friends and they are less likely to meet his needs and listen to his sorrows. They may not exactly understand what he is experiencing and emotional support to the person's needs are denied to him. Given the above, this study examines stress, anxiety, depression and emotional regulation in Alcohol abuser and people who looked normal. Given that the above-mentioned factors are pivotal in continuing the addiction.

Method

Participants

150 alcohol abusers who were admitted to a department of Psychiatry ward in Sheikh Zayed hospital in South Punjab Pakistan and 150 normal healthy in general population (non-abusers) from May, 2017 until Sep, 2017 were enrolled voluntarily in the study. The participants were male only. The inclusion criteria for alcohol abusers were: (a) age range 18 to 66 years; (b) no other drug abuse; (c) no psychotic problem; (d) no neurological disease; (e) no use of any other medication (psychiatry and medical). The inclusion criteria for non-abusers were: (a) age range 18 to 66 years; (b) no psychological or neurological disease; (c) no usage of any drug; (abuse, use, intoxication, dependence etc); (d) no use of any other medication (psychiatry and medical). Healthy people were in the non-abusers group were recruited through advertisements in the health center of the same hospital. They matched based on gender, age, educational level and economic status of the alcohol abusers group.

Measures

Depression, Anxiety, and Stress Scale

The depression, anxiety, and stress scale (DASS) are 42 items, 4 points Likert, self-report inventory that includes 3 factors: depression, anxiety, and stress. Gamma coefficients that represent the loading of each scale on the overall factor (total score) are 0.71 for depression, 0.86 for anxiety, and 0.88 for stress (Lovibond & Lovibond, 1995). Reliability of the three scales is considered adequate and test-retest reliability is likewise considered adequate with 0.71 for depression, 0.79 for anxiety and 0.81 for stress (Brown et al., 1997).

Emotion Regulation Questionnaire

The emotion regulation questionnaire was developed by Gross and John (2003), to measure the habitual use of two emotion regulation strategies: cognitive reappraisal and suppression. The items of emotion regulation questionnaire can be scored on 7 points Likert scale. Alpha reliabilities of cognitive reappraisal and suppression are 0.79 and 0.73. Both scales have 0.69 test-retest reliability, the internal consistency of cognitive reappraisal and suppression are 0.79 and 0.73 (Spaapen et al., 2014).

Statistical Analysis

Statistical analysis is done by using statistical package for social sciences version 21. Descriptive statistics, Pearson's correlation, T-test and regression analysis were conducted. All statistical tests were two-tailed, and $p < 0.05$ was regarded as being statistically significant.

Results

Descriptive Statistics of overall concerned variables under study

Table 1 shows the descriptive statistics of the overall variables which are included the study. The average age of abuser and no-abusers are 42.06 and 42.03 with std. deviation of 14.35 and 14.08 respectively. The average depression levels of abuser and non-abusers are 27.54 and 20.62 with std. deviation of 3.05 and 4.27. The average anxiety levels of abusers and non-abusers are 27.44 and 20.51 with std. deviation 2.91 and 4.28. The average stress levels of abuser and non-abusers the average scores are 27.70 and 20.86 with std. deviation 3.03 and 4.14. The overall average DASS levels of abusers and non-abusers the average score of DASS are 82.67 and 61.99 with std. deviation 4.97 and 11.55. Similarly the average reappraisal of abusers and non-abusers the average scores are 17.91 and 14.95 with std. deviation 3.78 and 3.15. Average score of suppression of abusers and non-abusers are 17.59 and 15.62 with std. deviation 3.24 and 3.05. Average score of overall emotion regulation of abusers and non-abusers the average score are 35.50 and 40.58 with std. deviation 2.09 and 2.39.

Table 1. Descriptive statistics of overall concerned variables under study

Variables	N	Minimum	Maximum	Mean	SD
Age					
Control	150	18.00	66.00	42.03	13.08
Abusers	150	18.00	66.00	42.06	14.35
Depression					
Control	150	8.00	32.00	20.62	4.27
Abusers	150	20.00	36.00	27.54	3.05
Anxiety					
Control	150	9.00	31.00	20.51	4.28

Variables	N	Minimum	Maximum	Mean	SD
Abusers	150	20.00	36.00	27.44	2.91
Stress					
Control	150	10.00	31.00	20.86	4.14
Abusers	150	21.00	35.00	27.70	3.03
DASS					
Control	150	35.00	91.00	61.99	11.55
Abusers	150	69.00	95.00	82.67	4.97
Reappraisal					
Control	150	17.00	33.00	14.95	3.15
Abusers	150	7.00	27.00	17.91	3.78
Suppression					
Control	150	8.00	24.00	15.62	3.05
Abusers	150	10.00	25.00	17.59	3.24
Emotion Regulation					
Control	150	26.00	44.00	40.58	2.39
Abusers	150	24.00	52.00	35.50	5.09

The differences of depression, anxiety, stress and emotional regulation between abusers and control groups

As shown in table 2, the alcohol abusers had significantly higher level of depression, anxiety, stress than non-alcohol abusers. Meanwhile, the alcohol abusers show lower level of cognitive reappraisal and higher level of suppression than that of non-alcohol abusers. The results indicated that alcohol abusers had more negative emotion and stress reaction and more inappropriate emotional regulation strategies.

Table 2. The differences of depression, anxiety, stress and emotional regulation in abuser and control groups (M±SD)

Variables	Control (n=150)	Alcohol abusers (n=150)	*t*	*p*
Depression	20.62±4.27	27.54±3.05	-16.159	< 0.001
Anxiety	20.51±4.28	27.44±2.91	-16.400	< 0.001
Stress	20.86±4.14	27.69±3.03	-16.304	< 0.001
Cognitive Reappraisal	24.95±3.15	17.91±3.79	17.482	< 0.001
Suppression	15.63±3.06	17.59±3.24	5.394	< 0.001

Correlation between depression, anxiety, stress and emotional regulation in two groups

Table 3 shows the results of correlation between cognitive reappraisal and suppression and depression, anxiety, stress in two groups. Cognitive reappraisal and suppression had negatively correlated with depression, anxiety and stress in healthy group but they had no correlated with depression, anxiety and stress in abuser group. The results indicated that the emotional regulations of alcohol abusers were not consisted with classical emotional regulation theory.

Table 3. Correlation between depression, anxiety, stress and emotion regulation in control and abuser group

Variables	Depression		Anxiety		Stress	
	Control	Abusers	Control	Abusers	Control	Abusers
Cognitive Reappraisal	-.211**	-.059	-.177*	-.017	-.182*	.070
Suppression	-.239**	-.047	-.204*	.078	-.213**	.012

*p<0.005; **p<0.001

Regression Analysis: Depression, Anxiety and Stress versus Emotion Regulation

Table 4 shows the results of regression analysis related to depression, anxiety and stress versus cognitive reappraisal and suppression. Both the cognitive reappraisal and suppression significantly predicated depression, anxiety and stress in control group while they did not predicate depression, anxiety and stress in abuser group. The results further suggested that cognitive reappraisal and suppression could be used as predicators in emotion regulation function in healthy control but they had no function in predicating negative emotion and stress in alcohol abusers.

Table 4. Regression analysis: depression, anxiety and stress versus emotion regulation in two groups

Predictor	Dependent		*B*	*SE*	*t*	*p*	R^2	*F*
Cognitive Reappraisal	Depression	Control	-0.285	0.109	-2.622	0.010	0.044	6.877**
		Abusers	-.047	0.066	-.0715	0.476	0.003	0.511
	Anxiety	Control	-0.241	0.110	-2.190	0.030	0.031	4.797**
		Abusers	-0.013	0.063	-0.202	0.540	0.000	0.041
	Stress	Control	-0.239	0.106	-2.246	0.026	0.033	5.046**
		Abusers	0.056	0.066	0.848	0.398	0.005	0.719
Suppression	Depression	Control	-0.334	0.111	-2.995	0.003	0.009	2.822*
		Abusers	-0.045	0.077	-0.575	0.566	0.002	0.331
	Anxiety	Control	-0.285	0.113	-2.530	0.012	0.041	6.402**
		Abusers	0.070	0.074	0.948	0.344	0.006	0.899
	Stress	Control	-0.288	0.109	-2.647	0.009	0.045	7.004**
		Abusers	0.011	0.077	0.141	0.888	0.000	0.020

Discussion

Previous study pointed that substance abusers had high levels of depression, anxiety and stress response compared with the control group (Harrel, & Karim, 2008; Flavio et al., 2005; Hasin et al., 2002; Blume et al., 2000; Salovay et al., 2000; Swendsen & Merikangas, 2000). Consistent with the results of the studies, present study in Pakistan sample found that alcohol abusers had more depression and anxiety, as well as stress reaction in comparison with non-abusers (Boden & Fergusson, 2010; Miller et al., 2007).

Apart from depression and anxiety, stress may play important role in alcoholism behaviors of alcohol abusers (Seeman & Seeman, 1992). Studies suggested that substance abusers complained more physical illness and were involved in income problem than normal people. Unemployment, financial problems and family conflict of alcohol abusers induced persistence stress reaction, long term behavioral dysfunction led to lose the sympathy from the family and social support. More

importantly, it seems that the drug addicts give up positive copying strategy to handle with stressful life events and stressful emotion responses; they always use alcohol because they believe that the alcohol can reduce their negative emotions, or amend stress conditions immediately. Present study found that alcohol abusers group scored lower cognitive reappraisal and higher suppression than control group which indicated that alcohol abusers used less cognitive reappraisal and more suppression to regulate their depression, anxiety and stress reaction (Schore, 2001). The results supported the conclusion that alcohol abusers less used positive and active emotional regulation strategy. Abusing alcohol which can eliminate lacking of energy, low mood and fatigue in the short term and lead to a positive reinforcement results in continuity of use in alcohol abusers (Rehm et al., 2009; Shibley et al., 2008; Pijls et al., 2007; Kessler et al., 2005; Bicego et al., 2003; Burns & Teesson, 2002).

Stress adaptation theory thinks that coping styles mediated the stress response when individual faced stressful events. Problem focused coping decreased stress reaction by which eliminate stressful events while emotional focused coping released negative emotion by which express mood to others. Furthermore, cognitive reappraisal usually was thought as a positive coping style which could appraisal both stressful event and copying ability, as well as social support coming from family and friends. Suppression normally was thought as a negative coping style which prevents ones expressing negative emotion. In the study, correlation results showed that both cognitive reappraisal and suppression had negative correlation with depression, anxiety and stress in control group which means that cognitive reappraisal and suppression could reduce negative emotion and stress reaction, and both cognitive reappraisal and suppression had positively regulation in negative emotion and stress reaction in healthy people. It is noticed that cognitive reappraisal and suppression had no correlation with depression, anxiety and stress in alcohol abuser group which implicated that both two emotion regulation had no influence on depression, anxiety and stress reaction in alcohol abusers. Our results highlight that copying (cognitive reappraisal and suppression) failed to mediate the negative emotion and stress response of alcohol abusers. The finding expanded the conclusion that alcohol abusers believe that the alcohol can amend stress conditions.

Regression results in the control healthy further supported the opinion of stress adaptation theory by showing that both the cognitive reappraisal and suppression significantly predicated depression, anxiety and stress in control group. Meanwhile, cognitive reappraisal and suppression did not predicate depression, anxiety and stress in abuser group. The results further gave the evidence that copying might fail to mediate the stress response of substances abusers.

Conclusion

Alcohol abusers has more depression, anxiety and stress reaction, as well as lower cognitive reappraisal and higher suppression compared with normal population. Both cognitive reappraisal and suppression could predicate negative emotion and stress reaction in normal population but the emotional regulation failed to predicating negative emotion and stress reaction in alcohol abusers.

Limitations of the Study

The study's limitations include a non-random sample. However, we matched the characteristics of the alcohol abuser group and the control group. Second, this is a cross-sectional study and future prospective studies are needed to help understand how copying style contributes to health promotion of alcohol abusers. Finally, the sample size is relatively small. Future studies should include a larger sample size to test the relationship between emotion regulation and stress reaction in alcohol abusers.

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