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RESEARCH ARTICLE

Socio-Demographics and Psychological Correlates of Anger Among Individuals Diagnosed with Alcohol Use Disorder In Jordan

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Abstract:

Objective:

Psychological disturbances such as anger, impulsivity and resilience among individuals with alcohol use disorder are considered barriers to successful treatment and contribute to poor prognosis and early relapse. The purpose of this study is to investigate the socio-demographic and psychological factors associated with anger among individuals diagnosed with alcohol use disorder in Jordan.

Methods:

A descriptive correlational design was used to collect data using self-reported questionnaire from 54 hospitalized patients with alcohol use disorder admitted for treatment over 4 months period. Data collected in relation to anger, impulsivity, and resilience.

Results:

The results showed that 64% of the patients in this study had severe clinical anger, 70% had moderate to high impulsivity level, and about 48% had high level of resilience. The findings also showed a significant positive correlation between patients' anger and impulsivity ($r = .36, p < 0.05$), while a significant negative correlation was observed between patients' anger and resilience ($r = -0.60, p < .001$).

Conclusion:

The link between anger, impulsivity and resilience is alarming mental health professionals toward the need for an integrated model of care during and after interventions to prevent relapse and sustain sobriety.

Keywords: Anger, Alcohol use disorder, Impulsivity, Resilience, Clinical anger, Psychotropic substances, Sobriety.

Article History

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1. INTRODUCTION

Alcohol use disorder is a devastating problem that has undesirable bio-psycho-social consequences on individuals, families and society [1] (Squeglia, Jacobus, & Tapert, 2014). Psychological factors contribute negatively to exacerbation of health condition of individuals with alcohol use disorder under treatment, and interfere with their abilities to sustain sobriety [2]. Among these psychological factors are anger, impulsivity and resilience. Studies showed that Alcohol users are more vul-

nerable to anger and aggression [3]. In addition, it has been reported that alcohol use increases anger expression, and anger would interfere negatively to alcohol and substance sobriety among young population [4]. More recent studies have also indicated that alcohol use is associated with aggressive acts than using other psychotropic substances, and that management of anger is necessary among individual with alcohol use disorders [5]. The connection also between aggression and alcohol use has also been reported [6]. Not merely during the course of detoxification, but alcohol has also interfered negatively with alcohol use treatment outcomes [7]. This shows the significant role of anger among individuals undergoing treatment of alcohol use disorder and their abilities to sustain their sobriety during and after the detoxification

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program [8].

Socio-demographic and psychological factors have also proposed to associate with anger among individuals with alcohol use problems [9]. Among those psychological factors are impulsivity and resilience in which researchers found that they are linked to anger management and substance use including alcohol [10, 11]. Higher level of impulsivity and lower levels of resilience are assumed to connect negatively to anger expression among individuals with alcohol use problems [12]. Individuals with high impulsivity traits tend to exhibit more alcohol related- anger, aggression, violence and injuries [13]. Resilience has also been proposed as buffering factor that contributes positively in preventing relapses and anger related problems [14]. Resilience has been also found to decrease odds of alcohol use among aggressive individuals [15].

The literature has also emphasized the role of Socio-demographic characteristics of individuals with alcohol use problem. Park and his colleagues [16] maintained that low social status including employment status and educational attainment are at higher risk to exhibit anger than those with high social status. Furthermore, higher anger level was found to be prevalent in younger males and those with low level of income than their counterparts [17].

In Jordan, the studies that investigate alcohol use disorder are lacking although it is considered one of the global burdens affecting individuals' lives and economy [18]. Studies are generally focusing on relapse [19], or on describing perseverance among particular groups [20]. Alcohol consumption, on the other hand, is deemed as a religiously and culturally sensitive issue in which alcohol use is prohibited by Islam and stigmatized by the Jordanian society. Thus, the role of stigma of alcohol consumption among the Jordanian and Muslim culture might contribute to self-isolate alcohol users and notably reduce their interaction with available social support systems. This could impact negatively on the psychological wellbeing of alcohol users leading for more anger-related acts. Addressing socio-demographic factors and psychological correlates of anger among Jordanian individuals with alcohol use disorder would enable further understanding of the proposed treatment and intervention plans. Therefore, the purpose of this study was to examine the relationship of anger with socio-demographics and psychological factors (impulsivity and resilience) among individuals with alcohol use disorder in Jordan.

1.1. Specific Aims

(1) To identify levels of anger, impulsivity and resilience among individuals diagnosed with alcohol use disorder in Jordan.

(2) To examine the association of anger with impulsivity and resilience among individuals diagnosed with alcohol use disorder in Jordan.

(3) To examine the differences in anger, impulsivity and resilience among individuals diagnosed with alcohol use disorder in Jordan in relation to socio-demographic variables.

1.1.1. Design

This is a quantitative study using cross-sectional, correlational design. Data collected using self-administered questionnaire from participants diagnosed with alcohol use disorder and receiving mental health care at inpatients units at governmental and military hospitals in Jordan. Information collected in relation anger, impulsivity, resilience and socio-demographic factors.

1.1.2. Sample and settings

Out of the total number of patients (54), all patients referred for treatment of alcohol use disorder were approached, 52 of whom agreed to participate. The targeted population had completed the detoxification course and included in rehabilitation programs. Inclusion criteria include: 1) patients at the age of 18 years or older, 2) diagnosed with alcohol use disorder according to medical record. Exclusion criteria include: 1) having co-occurring of any other mental disorder, and 2) patients suffering from any physical or cognitive disability that make them unable to respond to questions of the survey. The inclusion and exclusion criteria have been confirmed by their primary mental healthcare professional.

1.2. Data Collection Procedure

Prior data collection, ethical approval was obtained from the research and ethics committee at the targeted institutions. Those who expressed interest in participation were approached by the researcher who explained the purpose and significance of the study, assured patients that the study is completely anonymous, and that they have the right to accept or refuse participation in the study without direct or indirect harm. Patients had the chance to have all their questions answered and they assured that they could withdraw at any time during the study if they feel uncomfortable. A package that included the consent form and three self-reported questionnaires and the socio-demographics profile was introduced to participants in Arabic language. Those who signed the consent form had their medical records checked to confirm that they did not use any other illicit substances (polysubstance use) and checked for other eligibility criteria. Then, their cognitive ability was assessed and confirmed by conducting the Mini-Mental State Examination (MMSE) by the researcher who was licensed and qualified for conducting the exam. A private, well-ventilated, suitable, and comfortable room was used for collecting the data from the patients. Each participant was assigned to a digital code number according to the guidelines to protect their identity. In addition, upon receiving the completed questionnaires, a double-blind coding has been used for analysis. All data were kept at secured researcher personal computer.

1.3. Instruments

Data were collected using the Arabic versions of the instruments.

1.3.1. Anger

Anger was measured using the Clinical Anger Scale (CAS) (Snell, Gum, Shuck, Mosley, & Kite, 1995). The Arabic

version of the scale was used [19]. The scale consists of 21 items and formed to measure the psychological symptoms of anger. The score for each item ranged from 0 to 63 higher scores corresponding to greater clinical anger. Recent studies using CAS examined the internal consistency of this scale, which resulted in a reliability coefficient of 0.94 [19]. The scale also has good internal consistency in this study with Cronbach's alpha of 0.76

1.3.2. Resilience

Resilience was measured using Connor and Davidson's Resiliency Scale (CD-RISC) [21, 22]. The Arabic version of scale has been used [21]. CD-RISC is developed to assess resilience. It comprises of 25 items on which respondents rate themselves on a score that ranges from 0 to 4. Higher scores on the scale indicate greater resilience. There is supporting evidence on the internal consistency, test-retest reliability, convergent validity, and divergent validity of the English version of the scale with Cronbach's alpha of .92 [22]. Good evidence on the reliability and validity of the Arabic version of the scale has been reported with Cronbach's alpha of 0.79 [21].

1.3.3. Impulsivity

Impulsivity was measured using the Barratt Impulsiveness Scale-II (BIS -II) [23]. The Arabic version of the scale has been used [9]. The scale consists of 30 items assessing six first-order factors (attention, motor, self-control, cognitive complexity, perseverance, cognitive instability) and three second-order factors (attentional impulsiveness, motor impulsiveness, and non-planning impulsiveness). The items are scored on a four point scale (Rarely/Never [1], occasionally [2], Often [3], Almost Always/Always [4]), To calculate the scores, items number 1, 7, 8, 9, 10, 12, 13, 15, 20, 29, 30 scores should be reversed (Patton, Stanford, & Barratt, 1995). For the purposes of this study the total score is obtained, the higher the total score is the higher impulsivity personality trait. This scale has good internal consistency with Cronbach's alpha of 0.80 [24] and the Arabic version of this scale demonstrate Cronbach's alpha of 0.78 [9].

1.3.4. Socio-demographics

It included age, duration of the last time of admission\day, duration from the disorder diagnosis\months, physical health problems, marital status, working status, income and education. The socio-demographic information was obtained from an investigator-developed subject profile.

2. RESULTS

2.1. Descriptive characteristics

A total number of 52 patients completed the questionnaire. Patients' age ranged from 18 to 55 years with mean of 35.6 (SD=8.7) years. All patients were males (100%, n=52). Regarding marital status, 44.2% (n=32) were single, 42.3% (n=22) were married, 11.5% (n= 6) were divorced, while 1.9% (n= 1) widowed. Most of the subjects had no health problems (86.5%, n= 45), while 13.5% (n= 7) of them had one or more health problems. The mean duration from the last time of

admission was 20.1 days (SD = 13.7) ranging from 3 to 64 days, while mean duration of the diagnosis of alcohol use disorder was 22.5 months (SD = 33.6) ranging from 1 to 180 months. Moreover, most of the participants (59.6%, n=31) were not working, 21.2% (n=11) of them were part-timers, 15.4% (n= 8) were full time workers, and 3.8% (n= 2) were retired.

2.1.1. Anger

Regarding patients' anger level, the analysis (Table 1) showed that patients had a mean score of 41.42 (SD= 16.27) out of 63. The results indicate that 63.5% (n=33) of the sample have severe clinical anger, while 26.9% (n= 14) have moderate clinical anger, 3.8% (n=2) have mild clinical anger, and 3.8% (n= 2) have minimal clinical anger. This indicates that the majority of patients have moderate to severe level of anger.

2.1.2. Impulsivity

Regarding patients' Impulsivity level, the analysis (see Table 1) showed that patients' mean score of impulsiveness was 77.06 (SD= 12.31). the total score ranges from 30 (low impulsivity) to 120 (high impulsivity). In addition, 25% (n = 13) of the participants had a score between 30-70, and 75% (n = 39) had a score between 78 and 82. Using quartile equation, the analysis indicated that almost half of the patients (46.2%, n= 24) have high level of impulsivity, while 25% (n= 13) have moderate level, and 28.8% (n=15) had low level.

2.1.3. Resilience

Regarding patients' Resilience, the analysis (see Table 1) showed that patients' mean score was 31.19 (SD= 16.03). The range of the total score ranges from 0 (low resilience) to 100 (high resilience). Using inter-quartile equation, the analysis indicate that almost half of patients (48.1%, n= 25) had high level of of resilience, while 26.9% (n= 14) had moderate level, and 25% (n=13) had low of resilience.

3. BIVARIATE ANALYSIS

Assessing the correlation among anger, impulsivity and resilience, the analysis (Table 2) using Pearson r showed that resilience has significant and negative correlation with anger ($r = - 0.60$, $p < .001$) indicating that those who have high score of resilience are more likely to have low score in anger. Also, there was a significant and positive correlation between anger and impulsivity ($r = .36$, $p = 0.01$) indicating that those who have high level of anger are more likely to have high score in impulsivity. While no significant correlation between resilience and impulsivity was found ($r = - .26$, $p = 0.6$).

4. DIFFERENCES IN ANGER, IMPULSIVITY AND RESILIENCE IN RELATION TO SOCIO-DEMOGRAPHIC VARIABLES

To examine the association between resilience, anger, and impulsivity in relation to participants' age, duration from last time of admission, and duration of the disorder, Pearson coefficient (r) was used. The analysis (Table 3) showed that there was no statistically significant correlation between anger and age ($r = - 0.07$; $p > 0.05$), duration from last time of

admission ($r = -0.02$; $p > 0.05$), and duration of the disorder ($r = -0.05$; $p > 0.05$). As observed, all correlation magnitudes were very weak. Regarding resilience, the analysis also showed that there is no statistically significant correlation between resilience and age ($r = -0.06$; $p > 0.05$), duration from last time of admission ($r = 0.19$; $p > .05$), and duration of the disorder ($r = -0.03$, $p > .05$). As observed, all correlation magnitudes were very weak. Regarding correlation with impulsivity, the same results were obtained where no statistically significant correlation was found between impulsivity and age ($r = -.12$; $p > 0.05$), duration from the last time ($r = -.23$; $p > 0.05$), of admission and duration of the disease ($r = .01$; $p > 0.05$). Similarly, all correlation magnitudes were very weak.

Table1. Descriptive statistics of anger, impulsiveness and resilience (N = 52)

Variable	M	SD	Min	Max	P ₂₅	P ₅₀	P ₇₅
Anger	41	15.9	13	62	24	45	57
Impulsiveness	77.1	12.3	54	104	70	77	82
Resilience	31.2	16	10	67	16	26	44

Table 2. Correlation between resilience, anger, and impulsivity among individuals diagnosed with alcohol use disorder (N = 52)

Variables	Anger	Impulsivity	Resilience
Anger	-	-	-
Impulsivity	.36**	-	-
Resilience	-.60**	.26	-

* Correlation is significant at the 0.05 (2-tailed)

** Correlation is significant at the 0.01 level (2-tailed).

Table 3. Correlation (r) between resilience, anger, and impulsivity and participants' demographic characteristics (N = 52)

Variables	Anger	Impulsivity	Resilience
Age	-.03	-.12	-.06
Duration of the last time of admission/day	-.01	-.23	.19
Duration of the disorder diagnosis/months	-.05	.01	-.03

In addition, to test the differences between those who suffer from physical health problems and those who do not, in relation to anger, t-test for two independent samples was used. The results showed that there was no significant difference ($p > 0.05$) between those who suffer from physical health problems and those who do not, in relation to resilience, anger and impulsivity ($p > .05$). Moreover, to test the difference in relation to marital status, working status, income, and educational, ANOVA test was used. The results showed that there was no significant differences found in anger score related to marital status ($F = 0.6$, $p = 0.7$), working status ($F = 1.2$, $p = 0.3$), and income level ($F = 2.2$, $p = 0.1$), and educational level ($F = 0.8$, $p = 0.5$).

In addition, to test the difference between those who suffer from physical health problems and those who do not, in

relation to resilience; t-test for two independent samples was used. The results showed that there was no significant difference ($p > 0.05$) between those who suffer from physical health problems and those who are not in relation to resilience, anger and impulsivity ($p > .05$). Regarding difference in resilience, anger and impulsivity related to marital status, working status, income, and educational ANOVA test was used. The results showed that there was no significant differences in resilience related to marital status and working status ($p > 0.05$). However, there was a statistically significant difference in resilience related to income level ($F = 3.5$, $p = 0.02$). Using post hoc comparison (Schaffer), the analysis showed that mean score of participants with low income ($M = 27.1$, $SD = 13.1$) was significantly different than participants who have medium income range (from 500 JD to 749 JD) ($M = 57.3$, $SD = 11.9$). Furthermore, there was no significant difference ($p > 0.1$) regarding educational level in relation to resilience ($F = 0.3$, $p = 0.8$).

Regarding difference in impulsivity related to categorical factors, the analysis showed that there was no significant difference between those who suffer from physical health problems and those who do not ($t = -0.8$, $p = 0.4$). For the marital status, working status, income, and educational status, ANOVA test was used. The results showed that there was no significant difference in impulsivity related to marital status ($F = 2.1$, $p = 0.1$), working status ($F = 0.3$, $p = 0.8$), income level ($F = 2.5$, $p = 0.1$), and educational level ($F = 1.1$, $p = 0.4$).

5. DISCUSSION

Alcohol use problems are life devastating and contribute to bio-psychosocial and economic disturbances in individuals and society. This study emphasized the sociodemographic and psychological correlates of anger among individuals with alcohol use disorder. We have found that the majority of patients had high level of anger inferring that anger among individuals with alcohol use disorder is common. The study finding is supportive for the previous studies that high level of anger is observed among individuals with alcohol use disorder [7]. This could be explained in terms of the destructive effect of alcohol on cognition and emotions as it provokes maladaptive pattern of coping resulted in losing control over self and expression of anger [1]. Nevertheless, learning and practicing anger management skills provided by mental healthcare professionals at addiction centers lead to decrease anger related problems among individuals with alcohol use disorder, in particular, following detoxification programs [5].

This study also found that most of the patients had a high level of impulsivity. The results indicate that those diagnosed with alcohol use disorder are at greater risk to exhibit high levels of impulsive traits. Most patients in this study failed to preserve and showed no future plans to improve their living conditions nor did they think about consequences. The finding in this study agreed with the previous international studies, which reported that impulsivity is observed at high levels among individuals with alcohol use disorder [25]. It has been reported that individuals with high impulsivity levels tend to have more difficulties in regulating their emotions effectively and suggested that emotional dysregulation could be an

imperative factor to be considered when evaluating individuals at a higher risk for developing an addiction [26]. Consequently, individuals high on impulsivity may consume more alcohol to relieve negative emotions and for self-medication purposes that eventually become negative reinforcement over time. One possible explanation is that disinhibited personality traits including impulsivity influence individuals' learning process and push them to have more positive expectancies for challenge and engagement in risk behaviors. Particularly, for those highly disinhibited, they will express greater levels of positive alcohol expectancies and alcohol related problems [11].

This study also showed that mostly patients are at moderate to high level of resilience. Studies conducted in Arab region and neighboring countries addressing resilience among alcohol users are limited. The results in this study do partially support findings in previous studies that alcohol users tend to have low resilience level [27]. Studies showed that characteristics of resilience can mitigate tendency for alcohol use problems, contribute to decrease risk of alcohol use disorder serving as protective measure against alcohol related problems [28].

The study findings indicated that a significant proportion of participants reported high level of anger, impulsivity and resilience. This study provides evidence that there is a negative association between anger with impulsivity and resilience among individuals with alcohol use disorder supporting previous reports [29]. Furthermore, the reciprocal effect of alcohol use and impulsivity displayed critical forms of anger expression. In other words, the extent that anger expression is most severe refers to the extent that individuals have higher consumption of alcohol use and higher level of impulsivity [4, 6]. On the other hand, individuals who have higher level of resilience may perform certain strategies to overcome their anger feelings [30]. Despite the limited number of the international studies that addressed the influence of resilience on anger under the effect of alcohol, resilience is well recognized as a safeguard factor against alcohol use and anger related problems [7, 14]. The study does sustain this connection between resilience and anger among alcohol users among individuals of culture that strictly prohibit and stigmatize alcohol use.

One limitation of this study is that all subjects were males. Over the whole period of study, no female patients have been admitted to the center. Another limitation is related to the use of convenience sampling technique; therefore, the sample is not representative of Jordanian society and cannot be generalized. Last, using small sample, although this sample represent all patients may have produced false negatives type 2 error.

CONCLUSION

Anger among individuals diagnosed with alcohol use disorder in Jordan was found to be high and significantly associated with other psychological factors; impulsivity and resilience. Anger is still considered as one of challenging issues among individuals with alcohol use problem. The consequences of high anger levels need to be considered

seriously by mental health professionals at substance rehabilitation centres as such significant finding may indicate early relapse and delay recovery. Anger management and personality issues need to be integrated into treatment protocols during the rehabilitation phase. This also includes assessment of anger, impulsivity and resilience on admission, during the course of treatment, and post-discharge. A longitudinal study following up patients with alcohol use disorders will be more informative in terms of detecting the role of anger and other psychological factors in relapse.

ETHICAL APPROVAL AND CONSENT TO PARTICIPATE

Ethical Approval was obtained from The International Review Board of The University of Jordan, Jordan, PMS. 12.23. 8/2/2018

HUMAN AND ANIMAL RIGHTS

Not applicable.

CONSENT FOR PUBLICATION

Informed consent has been obtained from all the participants.

STANDARD OF REPORTING

STROBE Guideline and methodology were followed.

AVAILABILITY OF DATA AND MATERIALS

Not applicable.

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None.

CONFLICT OF INTEREST

The author declare no conflict of interest, financial or otherwise.

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