

State-Trait Anger and Quality of Life Among Alcohol Users

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Abstract

Background: Manifestations of anger are more often associated with use of alcohol. Anger also bears significant association with the process of relapse, coping, personality, interpersonal conflicts and quality of life.

Objective: There is a need to explore the relationship of alcohol use with anger and quality of life.

Method: We examined the State-Trait anger and quality of life among 150 subjects who were divided into three groups of 50 subjects each: alcohol dependents, abstainers and social drinkers. The Sociodemographic Schedule, State-Trait Anger Inventory and Quality of Life Scale were administered in individual sessions. Data were analyzed using multivariate analysis.

Results: Results revealed that the alcohol dependent group had high mean scores for state anger, trait anger and expression/experience of anger. They had lower anger control and quality of life.

Conclusion: Alcohol dependent persons have high expression and experience of anger leading to low quality of life. It has implications for understanding the role of anger in relapse and abstinence as well as its impact on quality of life (German J Psychiatry 2011; 14 (2): 60-65).

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Introduction

Substance use and abuse often coexist with anger and person-directed violence. Alcohol is the most commonly used substance among victims of violence and perpetrators, although this result is confounded with its widespread availability and abuse. Anger and aggression often can have a causal role in the initiation of drug and alcohol use and can also be a consequence associated with substance abuse. Forty percent of frequent cocaine users reported engaging in some form of violence or aggressive behavior (NHS, 2001). Acute alcohol use by the perpetrator is especially likely in intimate partner violence (about two-thirds of cases) relative to violence by strangers (about one-third of cases). Alcohol is also involved in a large number of

homicides and suicides. Estimates of alcohol use by 86% offenders reported use of alcohol prior to committing homicide (U.S. Department of Justice, 1998). Forty-seven percent of homicide perpetrators had consumed alcohol at the time of the murder and 32% had consumed illegal drugs (Australian government, 2005). It has been estimated that in over 50% of crimes, assailants had used alcohol prior to the offense (Murdoch et al., 1990).

Person expectancy also facilitates aggression as a result of alcohol use (Gustafson 1994). For example, research using real and mock alcoholic beverages show that people who believe they have consumed alcohol begin to act more aggressively, regardless of which beverage they actually consumed (Bushman, 1997). Alcohol-related expectancies that promote male aggressiveness, combined with the widespread perception of intoxicated women as sexually receptive and

less able to defend them, could account for the association between drinking and date rape (Lang, 1993).

Greater peak drinking levels were related directly to greater levels of hostility and norms for both aggression and alcohol-related aggression. Self-reported hostility and norms for alcohol-related aggression were related directly to drinking at bars and pubs, parties and friends' homes (Treno et al., 2008). Dubow et al (2008) reported that lower levels of behavioral inhibition and higher levels of aggression in childhood predicted adulthood alcohol use and abuse among males and females. Eftekhari et al (2004) found that expression of anger and avoidant coping were independent risk factors for substance use and use-related consequences across two classes of drugs in adolescent offenders. The early use of alcohol increased the odds of later anger (Weiner et al., 2001). Alcohol use in early adolescence was associated with increased anger, both in middle and late adolescence, controlling for gender, age, and socioeconomic status. Thirty percent of males and 25% of females reported having engaged in a fight while intoxicated (White, 1999), indicating that alcohol users also overestimate the intensity of emotional expressions and make more errors in their decoding with a special bias for anger and contempt (Philippot et al., 1999) Wells et al (2000) suggested that alcohol intoxication, rather than mere alcohol consumption, is associated with aggression. Moreover, alcohol intoxication is more strongly associated with physical aggression than with verbal aggression. Eckhardt (2007) found among marital couple that violent men under intoxicated state articulated significantly more aggressive verbalizations.

Researchers have also documented the role of trait anger among alcohol users expression and experience of aggression. Intoxicated man reported low levels of anger control with high trait anger (Parrott & Giancola 2004). Parrott & Zeichner (2002) reported that independent of beverage group, men who reported a high or moderate level of trait anger displayed more aggression on all measures, compared with those who reported low anger disposition. Individuals who reported low levels of trait anger would be more resistant to the potentiating effects of alcohol on aggression. There was little to no difference in the perception of the intensity of feelings, and the perceived verbal and physical expression of anger, following detoxification (Colella, 2002). Tivis et al (1998) found that anger was significantly negatively correlated with the Quantity-Frequency Index in alcoholic males. Anger was significantly positively correlated with depression in male and female alcoholics and with substance abuse consequences in the latter group. The depression measure was significantly correlated with consequences in female, but not in male alcoholics.

Men and women with greater risk-taking propensity, physical/verbal hostility, aggression, and tolerance of deviance were having competitive attitude toward driving, risk-taking driving, high-risk driving, driving aggression, and drink/driving (Sujata et al., 2006). Extraversion was found to be the predictor variable for alcohol use (Marsh & Miller, 1998).

Quality of life of alcohol-dependent subjects was poor but improved as a result of abstinence, controlled or minimal drinking (Marshall and Peters, 1999)

Aggression and anger has emerged as an unmanageable issue in the present society. It has different negative expressions such as terror attacks, percentage of murders has been increasing, gang attacks, addiction to substance use, etc. It has been increasing in both India and Western countries. There are very few western studies that show the relationship of state and trait anger in alcohol users. In India, we do not have extensive published research work in this area. So research is needed to study the relationship pattern of state trait anger expression and also anger control and anger expression and related variables in the general population and in alcoholics. The present study proposed to examine the association of state trait anger expression and quality of life among the Alcohol dependents, abstainers from alcohol and control group.

Methods

The study was reviewed and approved by the NIMHANS Ethics Committee. The sample was collected from inpatient and outpatient settings of the Deaddiction Centre, NIMHANS, Bangalore, as well as from the community (companies, from the hospital staff, clerks from college and also relatives of patient from OPD/Inpatient departments). Hundred participants seeking treatment for alcohol related problems were taken from the Deaddiction Centre, NIMHANS, Bangalore, and 50 participants from community through snowballing method. They were divided into 3 groups. Each had 50 subjects, i.e. 50 in the alcohol dependent group actively using the substance (group I); 50 who had an earlier diagnosis of alcohol dependence and were currently maintaining abstinence from alcohol at the time of the study (group II), and 50 social drinkers (group III). They were in the age range of 20–45 years.

Inclusion Criteria. The local language and English. Dependents: Subjects who were diagnosed with alcohol dependence (according to ICD-10 criteria). Abstainers: Subjects who had at least 3 month or more continuous abstinence from alcohol. Controls: Subjects who were social drinkers (not more than 2 standard drinks per day) or who were not using alcohol, subjects who scored less than cut off point (i.e., 3 and below) on the General Health Questionnaire.

Exclusion Criteria. Presence of organic disorder, mental retardation, polysubstance use (except nicotine), psychosis, or sensory deficits.

Rating Scales

The rating scales included:

- A semi-structured interview schedule developed by the investigator to obtain information about sociodemographic details, reasons for initiation and maintenance of alcohol use, abstinence period, motivation for treatment, anger perception, changes associated, behavioral addictions, and expression of anger in the family context.

Table 1. Anger Indices t-Scores by Control, Abstainers and Dependents

Anger measures	Control (n=50)		Abstainers(n=50)		Dependent (n=50)		P value
	Mean	SD	Mean	SD	Mean	SD	
State anger	45.24	1.97	45.84	3.50	49.00	7.50	0.000
State anger feeling	42.96	3.86	43.44	6.85	47.48	9.11	0.002
State anger verbal	42.40	1.98	42.92	3.24	45.76	7.91	0.002
S-anger physical	41.36	2.84	40.64	2.81	42.60	6.22	0.071
Trait anger	61.64	11.30	68.96	11.10	71.32	9.87	0.000
Trait anger temperament	56.52	12.30	63.84	12.61	66.20	11.95	0.000
Trait anger reaction	61.64	9.77	67.20	9.60	66.96	8.73	0.004
Anger expression out	55.88	10.21	58.84	13.58	63.28	12.67	0.011
Anger expression in	50.12	10.03	56.40	8.68	56.12	9.88	0.001
Anger control out	44.80	9.01	44.48	9.57	40.04	9.20	0.018
Anger control in	50.28	8.06	48.32	7.15	45.08	8.90	0.007
Anger index	53.56	6.90	57.04	8.81	61.96	10.81	0.001

- State-Trait Anger Expression Inventory-2 (STAXI-2; Spielberger, 1999). The STAXI-2 measures the experience and expression of anger and is a 57-item self-report questionnaire. It can be used with an adult population. It consists of six scales and an anger expression index. The scales are: State anger (S-ang), the intensity of angry feelings at the time of completion, Trait anger (T-ang), a disposition to experience anger; Anger expression-out (AX-O), the suppression of angry feelings; Anger control-out (AC-O), the prevention of anger expression towards other people or objects; Anger control-in (AC-I), the control of suppressed anger; and Anger expression index (AX-index), an overall index of the frequency of anger expression, regardless of direction. Internal consistency reliability has a value of α ranging from 0.73 to 0.95 for the total scale and from 0.73 to 0.93 for the subscales. The permission for using the same was obtained from the author.
- Quality of Life Scale: World Health Organization quality of life (WHOQOL-BREF, 1996) was used to assess the quality of life. It has 26 items that constitute 4 domains: physical, health, psychological health, social relationship and environment.

Procedure

Pilot study. As a part of the pilot study, all the tools were translated into Kannada by the investigator. Subsequently, tools were administered to 3 subjects to familiarize the researcher with the tools and to assess the time taken for administration of tools. The subjects were identified using case records and those who meet the inclusion and exclusion criteria were contacted to ask the permission to participate in

the study. Those who gave consent were explained the aims of the study and written consent was obtained. Assessment was carried out in individual settings. Subjects took 50 minutes to complete the tool. The questions in the interview schedule found relevant for the study. GHQ (12) was administered to check the psychological distress, the cut-off point of 03 and below scores were considered for the further assessment

Data Analysis

Data was analyzed for univariate followed by multivariate analysis. The relationship of psychological distress, state-trait anger, quality of life and coping with anger, among alcohol dependence, abstinence from alcohol and social drinkers was assessed through mean, standard deviation and ANOVA. The group difference between them was investigated by using multivariate analysis. Regression analysis was carried out to estimate the contribution of anger indices on quality of life by the three groups.

Results

The dependent group expressed anger more frequently (Table 1). Mean values are higher for this group on all dimensions of state trait anger expression inventory except for anger control. They have high mean value for trait anger, whereas control and abstainers have better control on anger expression. Trait anger significantly predicts aggression, but only among men who were intoxicated and reported low levels of anger control (Parrott & Giancola, 2004).

Table 2. Quality of life Domains by Control Abstainers and Dependents

Anger measures	Control (n=50)		Abstainers(n=50)		Dependent (n=50)		P-value
	Mean	SD	Mean	SD	Mean	SD	
Physical Health	22.90	2.23	22.54	3.62	21.52	2.18	0.037
Psychological Health	20.78	2.28	20.14	2.88	18.54	3.36	0.000
Social Relationship	11.90	1.28	10.48	1.97	10.14	2.11	0.000
Environment	28.94	4.54	27.80	5.02	26.68	4.38	0.056
Total scores of Quality of Life	100.22	9.35	93.49	10.32	88.12	12.05	0.000

Quality of life is poorest in the dependent group. Table 2 reflects that the dependent group had low mean scores in physical health, psychological health, social relationship beside environment domains. The average score on total scores of quality of life has a decreasing trend, indicating that the control group has better quality of life than other two groups. The average score on environment is the only domain that is not statistically significant; all other domains and the total of QoL average are statistically significant across the three groups. All these domains had been influenced by the expression/experience of anger. It reflects that all groups were able to maintain positive relationship with environment.

Using the general linear model a multivariate analysis (table not shown) on anger index total, quality of life total and its domains as dependent variable by expression of anger and experience of anger across the three groups was done. Linearity is significant in all the general linear models analysis. Pillai's trace statistic ($P < 0.000$) in the multivariate analysis indicates that on total score of anger index total, quality of life total and its domains significantly differ by the expression of anger and experience of anger across the three groups. When we consider between subjects effects, anger index ($P = 0.002$) and physical health domain ($P = 0.003$) of QoL are statistically significant for experience of anger, while other variables (of State-Trait Anger Scale) did not show significant differences. Similarly, between subject effects for expression of anger has a significant association with two indices, that is, social relationship domain and total quality of life.

After examining the differences among the anger indices, a multiple regression analysis was done to understand the contribution of anger indices to the quality of life. Multiple regression analysis was done by the stepwise method, with quality of life total as the dependent variable and anger index measures as independent variables. The grouping variable (viz., controls, abstainers and dependents) was entered as dummy variable. The results of the final iteration from the stepwise analysis are presented in Table 3. It gives the account on each anger index contribution on the quality of life. Anger expression out and anger control in are the two variables that were excluded by step wise method and the coefficient of determination was 33 % ($R^2 = 0.333$). The ANOVA for linearity was significant and the error variance was 94.62. All the anger indices negatively contribute to the quality of life total score, except the anger control, which is positively contributing. Another important observation is that the grouping variable (that is dummy variable) has the highest value. The grouping of variables (that is social drinker, abstainer and dependent) are treated as dummy variables. It is

coded in such way that the social drinker group is given the value of 0, abstainers given the value of 1 and dependent given the value of 2. This co-efficient has the value of -3.52, which is statistically significant. That is 3.52 units of reduction for the abstainers group and 7.04 units reduction in dependent group is expected on the quality of life total when all the anger indices are held constant. This regression analysis not only gives the contribution of anger index on the quality of life but clearly demonstrates the group difference. But it should also be noted that only 33% of the variability on quality of life is explained by the anger indices, and other variables need to be examined for better understanding about the quality of life.

Discussion

Anger can have a causal role in the initiation of drug and alcohol use and can also be a consequence associated with substance abuse. A commonly proposed mechanism underlying alcohol-induced aggression is the lowering of anxiety and inhibitions against violence. Alcohol reduces the fear of retaliation normally associated with aggressive behavior. This reduces fear against violence. Thus, when provoked, intoxicated individuals may be more likely to behave aggressively than sober individuals.

Violence and substance use are multiplied determined by a variety of factors including social, economic, and cultural forces. More proximally, substance use interacts with personality and situational variables in determining whether violence will occur in a particular situation.

Colella (2002), using the STAXI, found that alcohol dependence has an effect on how individuals control their expression of angry feelings. There was little to no difference in the perception of the intensity of feelings, and the perceived verbal and physical expression of anger, following detoxification. Treno et al. (2008) conducted telephone surveys to assess respondent demographics, drinking patterns, utilization of different places for drinking, self-report measures of hostility, norms for aggression and norms for alcohol-related aggression. They found that people living in areas with greater densities of bars and pubs reported lower norms for aggression and greater norms for alcohol-related aggression. Greater peak drinking levels were related directly to greater levels of hostility and norms for both aggression and alcohol-related aggression. Self-reported hostility and norms for alcohol-related aggression were related directly to drinking at bars and pubs, parties and friends' homes. Attwood et al. (2009) assessed the effects of acute alcohol consumption or

Table 3. Regression analysis comparing the relationship between anger indices and Quality of Life

	Unstandardized Coefficients	SE (B)	Standardized Coefficients	t	p
(Constant)	113.880	7.618		14.948	0.000
Grouping variable	-3.516	1.074	-0.247	-3.274	0.001
Trait anger	-0.282	0.160	-0.141	-1.758	0.081
State anger	-0.691	0.282	-0.179	-2.453	0.015
Anger control out	0.555	0.207	0.210	2.685	0.008
Anger expression in	-0.540	0.237	-0.178	-2.281	0.024

the expectancy of consuming alcohol on categorization of ambiguous emotional expressions among males and females. The significant effects of alcohol were obtained in the angry-disgusted task condition, but only when the target facial stimulus was male. Participants tended to categorize male disgusted faces as angry after alcohol, but not after placebo. Alcohol consumption also increased the likelihood of an ambiguous but negative facial expression being judged as angry. These effects were observed only for male faces.

Eftekhari et al. (2004) found outwardly expressed anger was significantly associated with both alcohol and marijuana use and use-related consequences among incarcerated adolescents. Avoidant coping was also significantly associated with all outcome variables. There were no significant interactions between anger expression (outward or inward) and avoidant coping. Expression of anger and avoidant coping were independent risk factors for substance use and use-related consequences across two classes of drugs in adolescent offenders. Leibsohn & Matthew (1994) found frequent drinking, intoxication and severe physical, emotional and behavioral alcohol-related consequences among high anger students in comparison to low-anger students.

Control of angry feelings was significantly correlated with psychological and social relationship dimensions of quality of life (Marie et al., 2008). The results suggest effects of alcohol use on expression/experience and quality of life.

The present work has provided information on the presence of anger among this group and its relationship with psychosocial domains, anger control, and quality of life. Subjects in the dependent group showed high state and trait anger, experience and expression of anger and low physical, psychological and social quality of life. Subjects were able to maintain the positive environmental relationship and anger control, thus maintaining their quality of life. These variables have implication for understanding psychosocial management, the process of relapse and abstinence. Findings of the study can be used to develop an anger management module to target the psychological issue related with state trait anger expression.

Future research in this area should focus on both male and female samples, expression of anger, relationship of psychosocial domains with state/trait expression, resilience to stress, quality of life, early onset of alcohol use, externalizing disorders, psychological comorbidities, relapse and abstinence, road rage and state and trait anger.

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