ORIGINAL ARTICLE

Personality Profiles of Alcohol and Amphetamine Addicts Admitted at Tertiary Care Mental Health Facility

Asif Azeem[1], Hassan Iqbal[2], Sikandar Ali[3], Tashfin Bin Nazar[4], Abdullah Asif[5]

ABSTRACT

Objective: To determine the personality profiles of alcohol and amphetamine (Ice) users admitted at Armed Forces Institute of Mental Health, (AFIMH) Rawalpindi.

Study Design: A cross-sectional study.

Place and Duration of Study: Armed Forces Institute of Mental Health (AFIMH), Rawalpindi from Nov 1, 2021, till April 30, 2022.

Materials and Methods: We consecutively sampled 222 subjects. Basic demographic data including age, gender, ethnicity and socioeconomic status were recorded. Patients were divided into two groups. Patients with primary alcohol addiction were labeled as Group A, while patients with primary amphetamine (ice) addiction were labeled as Group B. Personality profiles of the patients were assessed using the Urdu version of the Minnesota Multiphasic Personality Inventory- 2 (MMP- 2) and data was analyzed by using SPSS 26.

Results: Out of the total cases, 75 individuals (33.78%) were primarily addicted to alcohol, while 29 individuals (13.06%) had a primary addiction to amphetamines. Among those with alcohol addiction, 26 (34.6%) exhibited hypochondriasis, 54 (72%) showed signs of depression, and 56 (74.6%) scored high on hysteria. Psychopathic deviation was observed in 36 individuals (48%), and 40 (53.3%) had elevated masculinity scores. Additionally, 38 (50.6%) displayed paranoia, 31 (41.3%) had psychasthenia, and 40 (53.3%) showed signs of schizophrenia. Hypomanic traits were present in 10 individuals (13.3%), and 21 (28%) scored high in social introversion.

In the amphetamine addiction group, 10 individuals (34.4%) out of 29 showed hypochondriasis, while 20 (68.9%) experienced depression and an equal number scored high on hysteria. Psychopathic deviation and elevated masculinity were each noted in 14 individuals (48.2%). Paranoia was found in 13 individuals (44.8%), psychasthenia in 15 (51.7%), and schizophrenia in 16 (55.1%). Additionally, hypomania was seen in 8 individuals (27.5%), and 9 (31.0%) scored high in social introversion.

Conclusion: Depression and hysteria are the most common psychiatric disorders among alcohol and amphetamine addicts.

Key Words*: Alcohol, Amphetamine, Drug Abuse, ICE, MMPI, Personality Profile.*

Introduction

Substance use disorders represent a significant global health concern, impacting individuals, families, and communities. Among the diverse range of substances abused, alcohol and amphetamines (ice) stand out due to their widespread availability and profound effects on the central nervous system.[1] Conversely, amphetamines, typically illicit stimulants, are known for their potent psychoactive effects and high potential for addiction, often leading to significant psychological and social disruption.[2] Personality characteristics have long been implicated in the initiation, maintenance, and relapse of substance use disorders.[3] Studies conducted in Iran have shown that personality disorders like hysteria, depression, psychopathic deviation, paranoia and hypomania predisposes individuals to drug dependence.[4] Risk of alcohol use disorder as co morbidity in individuals with personality disorder increase by fivefold while the

[1]*Department of Psychiatry*
Combined Military Hospital, Okara
[2]*Department of Psychiatry*
Combined Military Hospital, Skardu
[3]*Department of Psychiatry*
Armed Forces Institute of Mental Health, Rawalpindi
[4]*Department of Psychiatry*
Combined Military Hospital, Abbottabad
[5]*Department of Psychiatry*
Foundation University Medical College, Rawalpind

Correspondence:
Dr. Asif Azeem
HOD Psychiatry
Combined Military Hospital, Okara
E-mail: drasifbajwa@yahoo.com

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risk of dependence on other drugs increase by twelve fold. It is also important to note that co morbidity depends on the type of personality disorder. It has been observed that substance use disorders are the commonest mental health problem in individual suffering from bipolar disorder, with a lifetime prevalence of around 78% percent.[5]

The Minnesota Multiphasic Personality Inventory-2 (MMPI-2), a widely used and extensively validated psychometric instrument, offers a comprehensive assessment of personality and psychopathology. Its various clinical and supplementary scales provide valuable insights into an individual's emotional functioning, interpersonal relationships, and behavioral tendencies especially in individuals with substance use disorders.[6,7] Investigating the personality profiles of individuals with alcohol and amphetamine use disorders using the MMPI-2 can illuminate potential differences and similarities in their underlying psychological characteristics. Distinct personality profiles associated with each substance can have significant clinical implications. For instance, individuals with different personality patterns might benefit from tailored treatment approaches that address their specific psychological needs and vulnerabilities. Furthermore, understanding these profiles can contribute to the development of more targeted prevention programs aimed at individuals exhibiting predisposing personality traits.[8,9] Other studies have also explored the broader link between personality traits and illicit substance use.[10,11]

The research aimed to explore and compare the personality profiles of alcohol and amphetamine dependence using the MMPI-2. By examining the patterns of elevated scores on the MMPI-2 clinical and supplementary scales, the objective of this study was to identify unique personality characteristics associated with each substance use disorder, ultimately enhancing clinical intervention and future research in the field of Substance abuse.

Materials and Methods

A cross-sectional study was conducted at Armed Forces Institute of Mental Health (AFIMH), after approval of Ethical review committee vide IERC 004/22, Rawalpindi between 1st Nov, 2021 to 30th April, 2022. A total sample size of 222was obtained by using WHO sample size calculator based on the results of study conducted by Al-aghemendan *et. al.,* where anticipated population proportion was 6.5%. We consecutively sampled subjects using convenience nonprobability sampling technique.[4] All patients 18-70 years of age of both genders admitted at AFIMH having drug addiction problems associated with alcohol and amphetamine were included. Patients who have been in rehabilitation and not taken any drugs for the last one month, and patients exhibiting clinical signs of a hangover (running nose, muscular skeletal pains, shivering of the hand and nausea) were excluded.

Basic demographic data including age, gender, ethnicity and socioeconomic status was recorded. Then, the participants were divided into two groups Group A representing patients with primary alcohol addiction and Group B included patients with primary amphetamine addiction.

The Urdu version of the MMPI- 2 was used to determine the Personality profiles of study participants.[12,13] This personality inventory consists of 10 clinical scales. For each clinical scale there are true-false questions to be answered by the participants. Scoring is done to get a total score for all 10 clinical scales by adding the total check marks chosen by participant for each scale separately. These total scores converted to normalized 'T scores' which has a range from 30 to 120. For each scale the cutoff 'T score' is 70 which means that if the score is above cutoff threshold, it is taken as positive or present otherwise it is considered negative or absent for that condition.

Data was analyzed using SPSS version 26.0. To represent “positive” numbers of patients among ten 10 different clinical scales and demographic variables, such as gender, marital status and educational status frequencies and percentages were used while age was represented as mean and standard deviation. Differences in the frequency distribution of the different 10 sub-scales of MMPI-2 between the two groups was assessed, ascertained and compared by applying Chi-squared test. Age, gender, marital status and educational status are confounding variables which were controlled by stratification. The p value of ≤ 0.05 was considered statistically significant.

Results

In this study mean age of participants was 43.56 ± 15.59 ranging between 19 and 70 years while 129 (58.11%) belonged to 18-45 years age group and 93(41.89%)ranged between 46-70 years of age group, 200(90.90%) were males and 22(9.91%) females, 158 (71.17%) married and 64 (28.83%) were un-married, while 77 (34.68%) cases had primary education, 62 (27.93%) cases had middle school to matric degree, 48 (21.62%) were undergraduate and 35 (15.77%) were graduates. A total of 75 (33.78%) cases were with primary alcohol addiction and 29 (13.06%) cases had primary amphetamine addiction (Table-I).There were 73 (32.9%) cases who had hypochondriasis, 164 (73.9%) had depression, 155 (69.8%) had hysteria, 106 (47.7%) cases had psychopathic deviate, 108 (48.6%) had masculinity/femineity, 120 (54.1%) cases had paranoia, 111 (50.0%) had psychasthenia, 124 (55.9%) had schizophrenia, 65 (29.3%) had hypomania and 59 (26.6%) cases had social introversion (Table-II).

When data was stratified for age, gender, marital status and education level psychiatric diseases were statistically same in all other study groups in all strata ($p > 0.05$) with no significant difference observed (Table-III).

Table I: Demographic Variables

S.no	Category	n (%)
1.	**Age** (Mean ± SD)	43.56 ± 15.59
	18-45 years N (%)	129 (58.11)
	46-70 years N (%)	93 (41.89)
2.	**Gender**	
	Male	200 (90.09)
	Female	22 (9.91)
3.	**Marital Status**	
	Married	158 (71.17)
	Unmarried	64 (28.83)
4.	**Education**	
	Primary	77 (34.68)
	Under matric	62 (27.93)
	Under graduate	48 (21.62)
	Graduate	35 (15.7)
5	**Substance of abuse**	
	Alcohol (group A)	75(33.78%)
	Amphetamine (group B)	29 (13.06%)

Table II: Minnesota Multiphasic Personality Inventory Scales (n=222)

S.No	MMPI Scales	Present	n (%)
1	Hypochondriasis	Yes	73 (32.9)
		No	149 (67.1)
2	Depression	Yes	164 (73.9)
		No	58 (26.1)
3	Hysteria	Yes	155 (69.8)
		No	67 (30.2)
4	Psychopathic deviation	Yes	106 (47.7)
		No	116 (52.3)
5	Masculinity/feminity	Yes	108 (48.6)
		No	114 (51.4)
6	Paranoia	Yes	120 (54.1)
		No	102 (45.9)
7	Psychesthenia	Yes	111 (50)
		No	111 (50)
8	Schizophrenia	Yes	124 (55.9)
		No	98 (44.1)
9	Hypomania	Yes	65 (29.3)
		No	157 (70.7)
10	Social introversion	Yes	59 (26.6)
		No	163 (73.4)

Table III : Comparison of MMPI Scales with Demographic Variables (n=222).

	Age (Years)	Present	Group A N (%)	Group B N (%)	P	Gender	Group A	Group B	P	Marital Status	Group A	Group B	P
Hypochondriasis	18-45	Yes	19 (33.9)	8 (36.4)	0.178	Male	23 (32.4)	5 (23.8)	0.006	Married	16 (34.8)	6 (40)	0.051
		No	37 (66.1)	14 (63.6)			48 (67.6)	16 (76.2)			30 (65.2)	9 (60)	
	46-70	Yes	7 (36.8)	2 (28.6)	0.063	Female	3 (75)	5 (62.5)	0.635	Un-married	10 (34.5)	4 (28.6)	0.151
		No	12 (63.2)	5 (71.4)			1 (25)	3 (37.5)			19 (65.5)	10 (71.4)	

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Depression	18-45	Yes	41 (73.2)	15 (68.2)	0.154	Male	50 (70.4)	12 (57.1)	0.496	Married	33 (71.7)	9 (60)	0.800
		No	15 (26.8)	7 (31.8)			21 (29.6)	9 (42.9)			13 (28.3)	6 (40)	
	46-70	Yes	13 (68.4)	5 (71.4)	0.601	Female	4 (100)	8 (100)	-	Un-married	21 (72.4)	11 (78.6)	0.307
		No	6 (31.6)	2 (28.6)			0 (0)	0 (0)			8 (27.6)	3 (21.4)	
Hysteria	18-45	Yes	41 (73.2)	17 (77.3)	0.448	Male	54 (76.1)	14 (66.7)	0.408	Married	33 (71.7)	10 (66.7)	0.486
		No	15 (26.8)	5 (22.7)			17 (23.9)	7 (33.3)			13 (28.3)	5 (33.3)	
	46-70	Yes	15 (78.9)	3 (42.9)	0.164	Female	2 (50)	6 (75)	0.268	Un-married	23 (85.2)	10 (71.4)	0.431
		No	4 (21.1)	4 (57.1)			2 (50)	2 (25)			6 (20.7)	4 (28.6)	
Psychopathic deviation	18-45	Yes	25 (44.6)	12 (54.5)	0.617	Male	33 (46.5)	11 (52.4)	0.410	Married	23 (50)	7 (46.7)	0.734
		No	31 (55.4)	10 (45.5)			38 (53.5)	10 (47.6)			23 (50)	8 (53.3)	
	46-70	Yes	11 (57.9)	2 (28.6)	0.413	Female	3 (75)	3 (37.5)	0.427	Un-married	13 (44.8)	7 (50)	0.366
		No	8 (42.1)	5 (71.4)			1 (25)	5 (62.5)			16 (52.2)	7 (50)	
Masculinity / feminity	18-45	Yes	32 (57.1)	12 (54.5)	0.574	Male	37 (52.1)	12 (57.1)	0.595	Married	24 (52.2)	6 (40)	0.093
		No	24 (42.9)	10 (45.5)			34 (47.9)	9 (42.9)			22 (47.8)	9 (60)	
	46-70	Yes	8 42.1)	2 (28.6)	0.071	Female	3 (75)	2 (25)	0.302	Un-married	16 55.2)	8 (57.1)	0.298
		No	11 (57.9)	5 (71.4)			1 (25)	6 (75)			13 (44.8)	6 (42.9)	
Paranoia	**18-45**	Yes	25 (44.6)	10 (45.5)	0.191	Male	37 (52.1)	9 (42.9)	0.455	Married	25 (54.3)	7 (46.7)	0.911
		No	31 (55.4)	12 (54.5)			34 (47.9)	12 (57.1)			21 (45.7)	8 (53.3)	
	46-70	Yes	13 (68.4)	3 (42.9)	0.310	Female	1 (25)	4 (50)	0.580	Un-married	13 (44.8)	6 (42.9)	0.167
		No	6 (31.6)	4 (57.1)			3 (75)	4 (50)			16 (55.2)	8 (57.1)	

Psychesthenia	**18-45**	Yes	24 (42.9)	11 (50)	0.670	Male	29 (40.8)	10 (47.6)	0.222	Married	18 (39.1)	8 (53.3)	0.508
		No	32 (57.1)	11 (50)			42 (59.2)	11 (52.4)			28 (60.9)	7 (46.7)	
	46-70	Yes	7 (36.2)	4 (57.1)	0.246	Female	2 (50)	5 (62.5)	0.585	Un-married	13 (44.8)	7 (50)	0.261
		No	12 (63.2)	3 (42.9)			2 (50)	3 (37.5)			16 (55.2)	7 (50)	
Schizphrenia	**18-45**	Yes	30 (53.6)	13 (59.1)	0.876	Male	40 (56.3)	12 (57.1)	0.973	Married	22 (47.8)	7 (46.7)	0.877
		No	26 (46.4)	9 (40.9)			31 (43.7)	9 (42.9)			24 (52.2)	8 (53.3)	
	46-70	Yes	10 (52.6)	3 (42.9)	0.929	Female	0 (0)	4 (50)	0.388	Un-married	18 (62.1)	9 (64.3)	0.685
		No	9 (47.4)	4 (57.1)			4 (100)	4 (50)			11 (37.9)	5 (35.7)	
Hypomania	18-45	Yes	2 (37.5)	6 (27.3)	0.360	Male	28 (39.4)	7 (33.3)	0.139	Married	18 (39.1)	5 (33.3)	0.572
		No	35 (62.5)	16 (72.7)			43 (60.6)	14 (66.7)			28 (60.9)	10 (66.7)	
	46-70	Yes	8 (42.1)	2 (28.6)	0.606	Female	1 (25)	1 (12.5)	0.360	Un-married	11 (37.9)	3 (21.4)	0.231
		No	11 (57.9)	5 (71.4)			3 (75)	7 (87.5)			18 (62.1)	11 (78.6)	
Social introversion	18-45	Yes	16 (28.6)	7 (31.8)	0.347	Male	20 (28.8)	5 (23.8)		Married	15 (32.6)	3 (20)	0.412
		No	40 (71.4)	15 (68.2)			51 (71.8)	16 76.2)			31 (67.4)	12 (80)	
	46-70	Yes	5 (26.3)	2 (28.6)	0.749	Female	1 (25)	4 (50)		Un-married	6 (20.7)	6 (42.9)	0.282
		No	14 (73.7)	5 (71.4)			3 (75)	4 (50)			23 (79.3)	8 (57.1)	

Discussion

Addiction is a multifaceted, social, biological and mental illness with an uncontrolled desire to enjoy and reduce stress in a person harboring underlying personality traits of vulnerability.[14,15]

The study results indicate that sample of our participants had mean age of 43.56 ± 15.59 years where minimum age was 19and maximum age was 70 years while 129 (58.11%) participants were 18 to 45 years of age and 93 (41.89%) belonged to ages between 46 and 70 years. Male participants were 200 (90.09%) and only 22 (9.91%) were females while 158 (71.1%) were married and 64 (28.83%) were un-married.

The most frequent high scores were observed on sub-clinical scales of depression and hysteria which were 54 (72%) and 56 (74.6%) respectively among alcoholics while among individuals having

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amphetamine addiction 20 (68.9%) scored equally high on depression and hysteria subscales similarly it was noted by Bussone that the most frequent psychological characteristics in these addicts were hysteria and depression.[16] In our study there are higher scores on depression subscale as compared to Alaghemandan *et.al.,*[4] who in his study highlighted that in individuals with risk of addiction there is high proportions of personality disorders with hysteria in 71.1%, depression in 62.7%psychopathic deviation in 60.2%, paranoia 48.3% while hypomania was observed in 53.7%. In current study alcoholics had the lowest scores on clinical subscales of hypomania (13.7%) and social introversion (28%) on the other hand individuals with amphetamine addiction scored more on hypomania subclinical scale (27.5%) and 31% scored for social introversion subclinical scale.

It is noted that both alcoholics and amphetamine addicts with slight difference scored high on clinical subscales of schizophrenia, paranoia and psychasthenia but was less than that of depression and hysteria in contrast to the results observed by Rahimi *et. al.,*[15] who noted that Schizophrenia, hypochondriasis and psychasthenia were the most prevalent clinical scales but this study noted that hypochondriasis was only present in 32.9% of participants.

Marshal *et. al.,*[17] have noted There was a significant correlation between abnormal personal characteristics and demographic variables in addition he also observes that depression and psychopathic deviation have the highest distribution and frequency among personality disorders while when data in this study was stratified for age, gender and marital status the frequency of psychiatric diseases was statistically same in both groups with no significant correlation ($p > 0.05$).

Identification and understanding of behavioral factors are therefore necessary to prevent these problems. In this regard, understanding personality traits of drug addicts is one of the important factors; a better understanding of drug addicts' personality profiling allows for more comprehensive planning to treat these patients according to their dominant personality, and provides policymakers in the health and drug control sectors with opportunities to develop more efficient preventive programs in society. Regarding the importance of the problem of addiction, different approaches have been considered in a macro level.[18] The results of the MMPI-2 test revealed that antisocial personality disorder, schizoid personality disorder, substance-induced mood disorder and somatoform disorder were more prevalent in patients taking methamphetamine.[14]

Conclusion: The most common psychological phenomena observed on MMPI-2 among alcohol and amphetamine addicts was depression and hysteria.

Disclosure: None

Conflict of Interest: None

Limitation of Study: Being cross sectional design of this study, It doesn't help in determining the reasons as to why depression and hysteria is present more frequently in individuals who are alcohol and amphetamine addicts.

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CONFLICT OF INTEREST

Authors declared no conflicts of Interest.

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DATA SHARING STATEMENT

The data that support the findings of this study are available from the corresponding author upon request.