Research Article

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Health Science Journal
ISSN 1791-809X

2024
Vol.18 No.1:001

Defense Mechanism and Dysfunctional Personality Factors among Substance Abuse Patients in National Capital Territory of Delhi, India

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Received: June 08, 2022 Manuscript No. IPHSJ-24-14521; **Editor assigned:** June 13, 2022, PreQC No. IPHSJ-24-14521 (PQ); **Reviewed:** July 25, 2022, QC No. IPHSJ-24-14521; **Revised:** January 02, 2024, Manuscript No. IPHSJ-24-14521 (R); **Published:** January 30, 2024

Citation: Wadhawan A, Sharma R (2024) Defense Mechanism and Dysfunctional Personality Factors among Substance Abuse Patients in National Capital Territory of Delhi, India. Health Sci J, Vol.18 No.1: 001

Abstract

Aim: The present study aims to understand the relationship between defense mechanisms and dysfunctional personality traits among substance abuse patients.

Method: Using purposive sampling, a total of 100 participants were recruited from two de-addiction and rehabilitation centres in the National Capital Territory of Delhi. The three key variables were assessed using the CAGE Adapted to Drugs (CAGE- AID) to screen patients for substance abuse, Personality Inventory for DSM-V Brief Form (PID-5-BF) to evaluate personality dysfunction and Defense Mechanisms Inventory (DMI) to assess the clusters of defense mechanisms used by the patients.

Results: The findings of the study suggest a significant and positive relationship between negative affectivity domain and substance abuse (r=0.264, p=0.008) as well as disinhibition domain and substance abuse (r=0.225, p=0.024). A significant and positive correlation between the turning against object cluster of defenses and substance abuse (r=0.242, p=0.015) was found among the patients.

Conclusion: These findings may have implications in treatment of substance abuse patients by identifying the ego defense mechanisms that the patient uses in the course of treatment and aiming to eradicate such maladaptive defenses in order to increase the compliance of the patient towards the treatment.

Keywords: Defense mechanisms; Dysfunctional personality; Substance abuse

Question and Answer

What do we already know about this topic?

A wide range of research on addiction and personality disorders suggests a high co-morbidity between substance abuse and cluster B personality disorders, especially anti-social personality disorder and borderline personality disorder. Further, it has been found that substance abusers use less mature and more neurotic and immature defense styles than the control group.

How does your research contribute to the field?

Although correlational studies to understand personality disorders and defense mechanisms associated with substance abuse have been conducted, there is a paucity of such research in the Indian context. The current research would contribute to alleviation of this lacuna.

What are your research's implications towards theory, practice or policy?

The current paper not only adds to the theoretical understanding of the association between personality traits, defense mechanisms and substance abuse, but also would make significant contributions to practice. De-addiction focuses primarily on abstinence. This research broadens the understanding of substance use and abuse by highlighting the underlying personality and defense style dysfunctions. It would thus contribute to making substance abuse treatment more holistic by addressing underlying factors to prevent relapse and make the individual more susceptible towards treatment.

Introduction

Substance abuse is defined as harmful or dangerous use of psychoactive substances such as alcohol and illicit drugs. The use and abuse of substance is ever increasing. Global statistics show that the prevalence of past month heavy episodic alcohol use was 18.3% and past year cannabis, amphetamine, opioid and cocaine use were 3.8%, 0.77%, 0.37% and 0.35% respectively among adult population [1]. Studies suggest that prevalence of substance use in India ranges from 19% to 60% [2-6]. The variations in prevalence rates could be attributed to differences in sample population, geographical distribution, instruments used to screen substance use and methodological differences.

The issue of substance abuse is a growing menace. A vast number of fatality is attributed to substance use. A report by the United Nations showed that worldwide, deaths directly precipitated by drug use increased by 60% from 2000 to 2015.

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Over a quarter of these deaths were of individuals aged 50 and above. Further, nearly 75% of demises from substance use disorders among those aged 50 and older were of ageing cohort of harmful users of opioids [7].

Substance consumption is often seen as a means to alleviate negative states [8]. There exists a body of research that studied personality disorders and substance abuse. For example, Gillespie et al. found that antisocial and borderline personality disorders were strongly associated with cannabis use among Norwegian Twins. Some studies highlight that various dysfunctional personality factors are not only co-morbid but also sometimes a perpetuator for substance abuse [9-12]. In addition to this, research on substance abuse and personality disorders shows a high co-occurrence between addiction and Anti-Social Personality Disorder (ASPD) and Borderline Personality Disorder (BPD) [13-15]. With regard to the specific co morbidity of cluster borderline personality disorder and substance abuse, disinhibited externalizing and antagonistic externalizing are important factors [16,17]. Another study explored the relationship between alcohol abuse and self-rated personality and found that alcoholics scored consistently higher on all indices of negative affectivity and significantly lower on those of constraint as compared to the control group [18]. Moreover, the personality trait of negative affectivity and emotional dysregulation are standing risk factors for the development and maintenance of substance abuse [19,20].

Substance users and abusers employ various coping and defense mechanisms. Prout and authors reported that the use of immature defenses was significantly associated with substance use among college students. Similar findings were reported in Iwanicka and colleagues in a sample of alcohol dependent individuals. Research surrounding the formation and style of defense mechanisms also suggests that nurturing childhood environments can cause use of more adaptive defense styles in early adulthood. These defense styles are associated with healthier midlife social as well as occupational functioning [21]. In a longitudinal study, it was found that defense mechanisms of identification and projection were used more recurrently as compared with denial at all the three stages of life and the use of the former two defense mechanisms increased from early to late adolescence [22].

In summary, the above review of literature reveals associations between substance abuse and defense mechanisms and personality dysfunctions. However, there is a dearth of research, particularly among substance abusers, in Indian context. Therefore, this research attempts to fill the existing gap in literature by exploring the relationship between substance abuse and defense mechanisms and dysfunctional personality traits in the National Capital Territory of Delhi, India with implications in the treatment and prevention of substance abuse.

Materials and Methods

Participants, procedure and ethics

The initial screening using CAGE-AID was conducted on 100 participants who were seeking treatment from different de-addiction/rehabilitation centres in the Delhi NCR region. They screened positive for substance abuse. The remaining proforma was then administered to assess the aforementioned variables. The technique of sampling that was used was purposive sampling. The mean age of participants was 32 years (SD=10). The mean years of education for this sample was 12 years, that is, till 10+2 grade level of schooling. The administration of the survey took approximately 60 minutes. It was self-administered in nature. Permissions were obtained from the relevant authorities of the de-addiction institutions to conduct the study. Out of these 100 males, 48 belonged to steps2life foundation, whereas, the remaining 52 belonged to Tapasya rehabilitation and de-addiction centre.

Measures

Socio-demographics included name, age, gender, years of education.

Screening for substance use: Participants were screened for substance use using the Cut-Annoyed-Guilty-Eye Adapted to Include Drugs (CAGE-AID), a four-item questionnaire developed by Brown and Rounds. An example item of CAGE-AID is 'have you ever felt you ought to cut down on your drug use?' The responses are marked as 'yes' or 'no'. Positive endorsement to one or more items is considered as a positive screening for substance use [23-26]. Previous studies have demonstrated excellent diagnostic accuracy of CAGE-AID in predicting substance use disorder [27].

Personality dysfunction: For the measurement of personality dysfunction, Personality Inventory for DSM-V Brief Form (PID-5-BF) by was used. PID-5-BF is a 25-item questionnaire which assesses five domains of personality dysfunction domain namely: a) Negative affect (items 8, 9, 10, 11, 15), b) Detachment (items 4, 13, 14, 16, 18), c) Antagonism (items 17, 19, 20, 22, 25), d) Disinhibition (1, 2, 3, 5, 6) and e) Psychoticism (items 7, 12, 21, 23, 24). Krueger and colleagues developed PID-5-BF by extracting 25 items from the original Personality Inventory for DSM-V (PID-5), a 220-item self-reported instrument. Each item of PID-5-BF is rated on 4-point Likert scale with '0' being indicative of 'very false or often false', '1' being suggestive of 'sometimes or somewhat false', '2' being indicative of 'sometimes or somewhat false' and '3' indicating 'very true or very often'. Scores for each of the personality dysfunction domain were summed with higher scores indicating greater dysfunction. Previous studies have demonstrated the evidence of reliability, test-retest reliability and construct validity of PID-5-BF among adolescents, students and clinical patients [28-30].

Defense mechanisms: Clusters of defense mechanism used by the participants were assessed using the Defense Mechanisms Inventory (DMI), a 200-items questionnaire developed by Mrinal and Singhal. For the present study, we used male and Hindi

version of DMI to assess five clusters of defense mechanism namely: a) Turning Against Objects (TAO), b) Projection (PRO), c) Principalization (PRN), d) Turning Against Self (TAS) and e) Reversal (REV). The aforementioned version was chosen keeping in mind the probability of prevalent demographic profile in the area. The questionnaire consists of 10 situations encompassing four questions each (based on reality, fantasy, thinking and feeling respectively), thus comprising of 200 items in total (40 items per cluster). Each question has 5 instances and upon reading the situation, the subject is to mark a (+) for the instance he is most likely to undertake if he were in that situation and a (-) for the instance he is least likely to perform. For the scoring, the item marked (+) is to be given the score of two, the item marked (-) is to be given the score of 0 and the remaining three items in each question are to be scored 1. Therefore, the total scoring of the entire questionnaire will always be two hundred. However, the cluster that gets the highest score, is the most widely used cluster of defenses by the subject (the range of scores for each cluster is 0-80).

Data analysis

Data were analysed using SPSS 23.0. Descriptive analysis was performed to calculate the mean and standard deviations for each domain of personality dysfunction trait and cluster of defense mechanisms used. This was done to enable their comparison with the norms. Thereafter, statistical tool of correlation was used in order to find the inter-relationship between the variables of the research. Pearson's correlations (r) were used to assess associations between substance abuse in-patients and the domains of personality dysfunction traits and the clusters of defense mechanisms. The proximal pool used for sampling was from the rehabilitation facilities for drug de-addiction in the National Capital Territory of Delhi, India; but the assumed target population are all individuals suffering from substance abuse and seeking in-patient treatment for the same, especially in India. Significance levels for all the statistical tests were set at an alpha of 0.05 ($p \leq 0.05$).

Results

Descriptive statistics

The mean age of participants was 32 (SD=10); with the youngest being 18 years old and the eldest being 57 years old. The mean years of education was 10+2 grade of schooling (with the lowest being uneducated and the highest being post-graduation level of educational qualification). The research participants were all males, currently resident in drug de-addiction and rehabilitation centres in Delhi NCR region.

Personality trait domains and defense mechanisms clusters

Personality trait domains and defense mechanisms clusters are reported in Table 1.

Table 1: Mean and standard deviations for PID-5-BF and DFI scores (N=100).

Personality trait domain	Mean (SD)	Defense mechanism cluster	Mean (SD)
Negative affect	9.93 (2.61)	TAO	39.09 (4.66)
Detachment	7.52 (3.28)	PRO	40.60 (5.86)
Antagonism	7.56 (3.28)	PRN	39.17 (3.45)
Disinhibition	9.79 (2.98)	TAS	38.14 (4.69)
Psychoticism	8.69 (3.47)	REV	43.02 (7.18)
Note: TAO: Turning Against Objects; PRO: Projection; PRN: Principalization; TAS: Turning Against Self; REV: Reversal			

Bivariate associations between the study variables

Bivariate correlations revealed statistically significant associations between several study variables. More specifically, there was a positive and statistically significant association between CAGE-AID total scores and negative affectivity personality trait (r=0.264, p<0.01) and disinhibition personality trait (r=0.225, p=0.024). Further, there was as positive and statistically significant association between CAGE-AID total scores and TAO defense mechanism cluster (r=0.242, p=0.015). Bivariate correlations between all the study variables are reported in Tables 2 and 3.

Table 2: Bivariate correlations between CAGE-AID scores of substance abuse in patients and PID-5-BF (n=100).

Domains of personality traits	CAGE-AID scores
Negative affectivity	0.264**

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Detachment	-0.105
Antagonism	0.008
Disinhibition	0.225*
Psychoticism	0.152
Note: **p=0.008, *p=0.024	

Table 3: Bivariate correlations between CAGE-AID scores of substance abuse in-patients and defense mechanism clusters (n=100).

Defense mechanism cluster	CAGE-AID scores
TAO	0.242*
PRO	0.135
PRN	-0.061
TAS	-0.115
REV	-0.195
Note: *p=0.015; TAO: Turning Against Objects; PRO: Projection; PRN: Principalization; TAS: Turning Against Self; REV: Reversal	

Discussion

The present aimed to understand the relationship between substance use and dysfunctional personality and defence mechanisms among substance use patients. The findings suggest a statistically significant associations between substance use and dysfunctional personality and defence mechanisms. More specifically, there was a positive and statistically significant associations between substance use and negative affectivity personality trait. Prior research suggests that individuals extreme in both negative affectivity and behavioural disinhibition have especially higher rates of alcohol abuse. Further, there was a positive and statistically significant association between substance use and disinhibition domain of personality dysfunction. Personality dysfunction is highly related to substance abuse onset. The findings of this study are reflective of the significance of considering such findings within the personality domains of disinhibition and negative affectivity, which may be partially able to explain the relationship between substance abuse and personality dysfunction. Disinhibited personality traits, such as impulsivity, excitement seeking and low harm avoidance reflect a basic vulnerability toward alcohol abuse [31]. Therefore, substance abuse treatment should focus on both short-term management of withdrawal symptoms and long-term strategies for maintaining abstinence and reducing rates of relapse [32].

No significant correlation was found between substance abuse in patients and the other domains of personality dysfunction like, detachment (r=-0.105), antagonism (r=0.008) and psychoticism (r=0.152). Research has found that externalising factors like antagonism and disinhibition are more likely to be associated with substance abuse as opposed to internalising factors like detachment and psychoticism [33]. The present study shows a non-significant association between antagonism and substance abuse. This could be due to social acquiescence on part of the patients to not reflect themselves in light of being deceitful, manipulative or callous in their approach. Therefore, the hypothesis is verified for two domains.

The present also found a positive and statistically significant association between substance abuse and TAO cluster of defense mechanisms. As per to the taxonomy by Gleser and Ihilevich, TAO cluster consists of defenses such as displacement and identification with the aggressor. Studies have shown that neurotic defense mechanisms are most predominant in patients relapsing to addiction. Neurotic defense mechamisms include undoing pseudo-altruism, displacement and cancellation. Moreover, a study on alcohol abuse patients suggested that they used less mature and more neurotic and immature defenses as compared to the control group. However, the sample in this study was women. Immature defenses include rationalization, projection, denial, isolation, devaluation, somatization, dissociation, identification with the aggressor, acting-out, splitting, passive aggression and displacement. The other clusters of defence mechanisms, however, showed no significant correlations with substance use. This suggests that they are less likely to make use of defenses like intellectualization, isolation and rationalization (PRN), masochism and auto sadism (TAS), negation, denial, reaction formation and repression (REV). These

findings are in line with prior literature indicating association of utilisation of intellectualisation and denial to lower levels of psychopathology as opposed to defenses of projection and turning against others. A probable reason for this could be that the defense mechanisms that are suggestive of conflict with others lead to poorer self- reported adjustment and resultant dysfunctional behaviour, as opposed to defenses that encompass not responding with negative affect result in better overall psychosocial health.

Conclusion

There is a positive and significant correlation between substance use and negative affectivity. The same being an antecedent of substance intake behaviour could be further explored. Moreover, it was found that substance use patients are more susceptible to use defense mechanisms such as displacement, identification with the aggressor or other such defense styles that respond to conflict by attacking a real or supposed external frustrating object or threat. The findings of the present study further highlight the need for further exploration in this field that may help in developing preventive strategies in substance abuse by studying whether having these personality traits and employing these defense mechanisms makes a person more susceptible to substance intake behvaiour. The findings may have implications in treatment as well by identifying the ego defenses that substance use patients use in the course of treatment and aiming to eradicate such maladaptive defense mechanisms in order to increase the acceptance as well as compliance of the patient towards the treatment process.

Limitations

The present study had certain limitations that needs to be addresses. First, the study participants were recruited from only two deaddiction/rehabilitation centres located in the National Capital Territory of Delhi. Second, the sample size for the present study was small and not representative of the entire population of substance users in India. Third, only male participants were recruited for this study. Therefore, the findings of this study cannot be generalized to a larger population of substance users. Fourth, the cross-sectional nature of the study does not allow us to establish the causal nature of the study variable. Fifth, the survey was self-reported which may result in social desirability or social acquiescence.

Author Contributions

A. Wadhawan and R. Sharma jointly generated the idea and design for the study. A. Wadhawan programmed the study and proceeded with data collection. The data analysis was aided by R. Sharma. A. Wadhawan wrote the first draft of the manuscript and R. Sharma critically edited it. The final version of the manuscript was approved by all the authors.

Conflict of Interest

None.

Acknowledgments

I would like to extend my hearty gratitude to the rehabilitation centres that allowed me to undertake my data collection. Further, this work could not have been possible without the help of my peers and parents, who were a constant source of support and strength.

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