IMPULSIVITY: EFFECT OF ITS KINDS ON SUBSTANCE ABUSE AND MANIC PATIENTS

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ABSTRACT : *The present study aims to measure level of impulsivity among the manic and substance abuse patients of Bahawalpur. The research sample was consisted of 70 patients. The total participants were equally divided in to two groups, 35 manic patients and 35 substance abuse patients. The sample was recruited by using convenient sampling technique from the Bahawal-Victoria Hospital and Shakoor mind care institute. Level of impulsivity was assessed by Barratt Impulsiveness Scale (BIS-11) constructed by Barratt © (1995). Data was analyzed by SPSS (20.0) version; Statistical techniques of Descriptive statistics, Correlation, Guttmann Split–half Reliability, t-test, mean and Standard Deviation were used to for the results. Reliability and Validity of scale were found to be 78% and 100% respectively. Findings of the research suggest that an overall level of impulsivity (69%) with significant value, affect the manic and substance abuse patients. The average score of trait impulsivity remained high among manic 71% in comparison with 66% of substance abuse patients. Conclusively it was investigated that manic patients have elevated level of impulsivity as a significant trait of mania as compared to substance abuse.*

Keywords: Impulsivity, Mania, Substance abuse, gender differences, hospital patients.

1. INTRODUCTION

The presence of behavioral or psychological problems is not a new phenomenon in the present day world. World Health Organization explored that 10% individuals face any type of psychiatric or behavioral problems in their life span [1]. The problematic behavior can be controlled at earlier stages only if we come to know what initially is causing, leading or maintaining towards that behavior. There are diversity of disorders that can prevail in adolescent people by influence of gender, socioeconomic status and preferences of residential areas. Substance abuse and mood disorders are most prevalent in adolescent people all over the world [2].There exists a strong correlation between trait impulsivity and psychiatric disorders (substance abuse & manic patients). Elevated levels of impulsivity are present in substance abuse and manic patients [3].There is presence of bidirectional relationship between impulsivity and psychiatric disorders of mania and substance abuse. Mood disorders include major depressive disorder and bipolar disorder (also called manic depression). Mood disorders and its correlation with impulsivity is the prevailing cause of disability in psychiatric patients [4].

Operationally, impulsivity is regarded to have a multidimensional construct, with impulsive behavior possibly arising from various altering systems, sustained by different cognitive and neural mechanisms [5]. Within cognitive neuroscience and neuropsychology, impulsivity is often associated with the term disinhibition denoting to the idea that top-down regulator mechanism commonly inhibits automatic and reward-driven responses that are not applicable to the existing demand [6]. However, there is no single explanation of impulsivity, as it is mostly considered as an umbrella term [7].The potential to concentrate on any task at instant and cognitive instability is called attentional impulsivity [8]. Acting on the stimulus of the moment and perseverance is called motor impulsiveness. Loss of self-control and cognitive uncomplexitity is called non-planning impulsivity [9].

Deficits in elements of impulse regulation are key factors of psychological issues [10]. Impulsivity shown up in the diagnostic criteria for different psychiatric disorders which include borderline personality disorder, bipolar disorder, substance use disorder, antisocial personality disorder, paraphilias, dementia, mania and attention-deficit and hyperactivity disorder. Furthermore, impulsivity regarded as a center piece in etiological theories of psychiatric disorders and crimes [11].Some research recommended that impulsivity is dysfunctioning: elevated levels have been connected to personality disorders, substance abuse and criminality [12].The kinds of behavioral and emotional disruptions that occur in adolescents with mood disorders can be can be highly devastating and consists of issues related to health, social and interpersonal functions. Mood disorders for a prolonged time, causing impairment or significant distress [13].

Trait –impulsivity can be conceptualized as a unique pattern of behaviors forecasting an ability to show any reaction quickly to an available stimulus and to instantly provide rewards, without forethought of expected dangerous results [14]. An agreement is progressing that impulsivity is a personality trait which is developed early in life and which remain stable over time. Impulsivity is a trait that has been associated to the initiation and maintenance of a several types of substances such as heroin, alcohol, cocaine, and cigarette smoking [15]. Over all impulsivity, attentional, motor, non-planning impulsivity is high in manic and substance abused patients [16]. Psychiatric patients of mania and substance abused shows elevated levels of impulsivity as well as the different factors of impulsivity. Motor impulsivity is high in manic patients. Impulsivity is a trait of mania disorder [17]. There has been a well-documented association among impulsivity and substance abuse or mania [18]

MATERIALS AND METHODS

In this research cross- sectional survey design was being used to find out the level of impulsivity among substance abuse and manic patients. Convenient sampling technique was being used to recruit the participants for this research. The sample was comprised of (N= 70) substance abused and manic patients from the Bahawal-Victoria Hospital (BVH) and Shakoor Mind Care Institute. Level of impulsivity was assessed among two samples, 35 substance abuse and 35 manic patients. A-priori sample size was calculated [19] minimum required sample 64 was obtained. 6 patients were taken additionally from both hospitals, to minimize the biasness of participants. The size of the sample was rationalized. With accordance to the Ethical considerations, prior permission letters were acquired. There was only one tool used for collecting data. Before administration of this scale, tool was translated in to Urdu language with the formal permission of the author through e-mail. Scale was validated by using forward and backward translation method, as well as maintains reliability of the scale by using the relative technique of split-half reliability. Initially pilot study was conducted by selecting participants and validating tool with a formal consent from the author.Participats in the recent study was being informed to participate willingly. Participants were given the Barrat Impulsiveness scale (BIS-11), which was used to measure the elevated level of impulsivity among substance abused and manic patients. Moreover after collecting data from the targeted population, it was analyzed through SPSS 20.0. Data analyzed by using Mean, Standard Deviation, Regression, t-test, and Cronbach, s Alpha as statistical techniques. After that, discussion was made on the basis of results and compare with relevant researches. Level of impulsivity was being investigated in the manic and substance abused patients.

The Barratt impulsiveness scale (BIS-11) is the most commonly used and one of the oldest self-report construct of impulsiveness. BIS-11 is an instrument constructed to measure the personality / behavioral impulsive personality traits. Barratt impulsiveness scale, version 11 with thirty items is latest version of this scale [20]. The first Barratt Impulsiveness scale (BIS) was developed by Dr. Ernest Barratt © 1995. It is the greatly used scale for the measure of impulsivity and has been used up to date our understanding of this scale and its relationship to other clinical phenomena for 50 years [21]. It consists of 30-items which are rated from 1 to 4 for Never to Always. The BIS-11 is constructed to measure long-term kinds of behavior; levels of impulsive personality traits among different kinds of population including substance used individuals [22].

The results of the correlation analysis shows that impulsivity is positively and highly correlated with the targeted population (manic and substance abused patients). Correlation analysis just gives us the relationship between the two variables. Correlation doesn't mean causality or do not show the cause and effect relationship among variables. The recent results of the correlation analysis prove that there exists a significant positive, linear relationship among variables of impulsivity, manic and substance abused patients. This is the correlation analysis of our study.

RESULTS

Table 1: *Attentional, motor and non-planning factors of impulsivity in overall population*

2^{nd} order Factors	Manic Patients		Substance Abuse	
	Mean	Std. Deviation	Mean	Std. Deviation
Attentional Impulsiveness	18.33	5.445	16.92	3.878
Motor Impulsiveness	28.29	4.333	24.75	4.571
Non planning Impulsiveness	26.69	4.541	23.95	4.231

An overall the motor impulsiveness is higher as compared to other factors in the both substance abuse and manic patients.

Table 2: *Comparison of manic and substance abuse patients in case of Impulsiveness*

Variables	Manic Patients	Substance Abuse	T-Score	d.f	P-value
Impulsivity	71.31	66.75	4.223	298	0.000

Note. The average impulsivity of manic patients is higher than substance abuse and is significant at 5% level of significance with p-value 0.000. Hence we conclude that impulsivity is more significantly effects the manic patients.

Table 3: *Correlation analysis*

		Patients	Overall impulsivity
Patients	Pearson correlation	1	.467**
	Sig. (2-tailed)		.000
	N	70	70
Overall Impulsivity	Pearson correlation	.467**	1
	Sig. (2-tailed)	.000	
	N	70	70

5. DISCUSSION

The purpose of this study was to investigate the level of impulsivity between manic and substance abuse patients of a clinical sample. The results of this study indicated that higher level of impulsivity exists among manic and substance abused patients. There was positive correlation between impulsivity and psychiatric patients (manic & substance abused). Impulsivity is significantly influences the manic and substance abused patients .Results shows 78% significant value of impulsivity, that affects the manic and substance abused patients. The previous study of Swann and colleagues supported our original hypothesis that Impulsivity is a significant factor in manic and substance abused patients. Impulsiveness Scale administered to 113 manic patients during manic episodes and 70 healthy patients. They found higher Impulsiveness scores in manic and substance abused patients as compared to healthy participants [23].

There is elevated level of overall impulsivity as well as attentional, motor and non-planning impulsivity in manic and substance abused patients [24]. The present result shows that the overall average impulsivity in the sampled population is 78%.Over all impulsivity, attentional, motor, non-planning impulsivity is high in manic and substance abused patients. Psychiatric patients of mania and substance abused shows elevated levels of impulsivity as well as the different factors of impulsivity. Motor impulsivity is high in manic patients [25]. The result of our present research supports this hypothesis. Motor impulsiveness is 28 %, Attentional impulsivity is 18 % and Non-planning impulsivity is 26 %. Motor impulsiveness is higher as compared to other factors of impulsivity in both substance abused and manic patients. Impulsivity is not a single construct, having multi-dimensional factors of impulsivity. Factor analysis of the impulsivity scale revealed 6 first order factors and three second order factors (attentional, motor, and non- planning) impulsivity. Three similar second order factors of impulsivity a cognitive impulsivity (attentional), motor (action without forethought) and non-planning impulsivity (weak deliberation about future) [26].A review of countless factor analysis researches proved that impulsivity having different factors of impulsivity (Attentional, Motor and Non-planning). These three are the behavioral factors of impulsivity [27].

Manic patients having higher levels of impulsivity as compared to substance abused patients. Manic patients have elevated levels of impulsivity that is 71 %. And the impulsivity of substance abused patients is 66 %. The average impulsivity of manic patients is higher than substance abused and is significant at 5% level of significance with p-value 0.000. Hence we conclude that impulsivity is more significantly affects the manic patients. Impulsivity is a trait of mania disorder [28].The result analysis of the present research reveals that there is difference in impulsivity between manic and substance abused patients. Elevated levels of impulsivity reveal that Impulsivity is a behavioral trait of manic patients. We study the correlation of impulsivity with the special domain of Clinical patients (manic and substance abused). Previous researches and the results of this recent study strongly support the hypothesis that manic patients have more elevated levels of impulsivity during the manic episodes. So it is concluded from the present study that there exists a positive, significant correlation of impulsivity with manic and substance abused patients.

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