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ORIGINAL ARTICLE

Attention-Deficit / Hyperactivity Disorder and Impulsiveness in Group of patients with Addictive Problems / Behaviors

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ABSTRACT

Objectives: The current study aimed to examine Attention-Deficit/Hyperactivity Disorder (ADHD) and impulsiveness among patients with addictive problems or behaviors admitted to the Combined Military Hospital (CMH), Lahore.

Methodology: A correlational research design was employed. The sample comprised 90 male patients aged 17 to 55 years, selected through purposive sampling. Inclusion criteria required participants to be over 16, admitted to CMH Lahore, and able to read and understand English. Data were collected using a demographic information sheet, the Attention-Deficit Hyperactivity Disorder (ADHD) scale, and the Barratt Impulsiveness Scale (BIS-11). Statistical analysis was performed using SPSS. Descriptive statistics summarized the data, and Pearson Product-Moment Correlation was applied to examine the relationship between ADHD and impulsiveness.

Results: The analysis revealed a significant positive correlation between ADHD and overall impulsiveness ($r = .63$, $p < .01$). Additionally, ADHD was positively correlated with all three subscales of impulsiveness: attentional ($r = .58$), motor ($r = .45$), and non-planning ($r = .49$). These findings suggest that individuals with higher ADHD symptoms demonstrate greater impulsivity, which may contribute to the development or maintenance of addictive behaviors.

Conclusion: The study supports a significant relationship between ADHD and impulsiveness in individuals with substance use issues. These findings highlight the need for early diagnosis and targeted intervention for ADHD to potentially reduce the risk of substance abuse. Addressing impulsivity in ADHD patients should be integrated into treatment strategies for addiction.

Keywords: ADHD, impulsiveness, addiction, BIS-11, substance use disorder, CMH Lahore, comorbidity, behavioral health.

INTRODUCTION

Attention deficit hyperactivity disorder (ADHD) is characterized by symptoms of inattention and/or hyperactivity and impulsivity, resulting in significant functional impairment.[4] ADHD is an evolutionary neurobehavioral disorder often diagnosed during childhood and characterized by the main symptoms of inattention, hyperactivity, and impulsivity, which may lead to poor occupational, academic, and social performance later in life.

Furthermore, a recent long-term follow-up study reported findings consistent with earlier research, showing that individuals with ADHD were approximately six times more likely to develop substance or alcohol abuse compared with controls, with females demonstrating a significantly higher risk than males.[1] ADHD has also been identified as a risk factor for alcohol and tobacco use in clinical and high-risk adult populations. The clinical diagnosis of adult ADHD requires the presence of at least two of six symptoms of either inattention or hyperactivity-impulsivity during the six months preceding assessment, with symptom onset before seven years of age and associated functional impairment in multiple life domains.[2]

Substance use disorder (SUD) is generally more severe among individuals with ADHD, with comorbidity associated with earlier initiation of substance use, greater substance variety, and higher rates of polysubstance use. ADHD is reported to be comorbid in approximately 30% of patients with SUD and is linked with earlier onset, faster progression, and a more chronic course of addiction with poorer prognosis.[6] Although ADHD was previously believed to diminish with age, longitudinal research suggests that while hyperactivity may decrease, symptoms persist into adulthood in nearly 60% of cases, and up to 90% continue to experience functional impairment.

Recent evidence consistently highlights impulsivity as a central mechanism linking ADHD to addictive behaviors. Individuals with ADHD, particularly those exhibiting elevated impulsivity, are at significantly increased risk for substance-related and behavioral addictions, including gambling.[3–5] Neurobiological evidence demonstrates overlapping dysfunctions in frontostriatal and reward circuits, contributing to shared vulnerability between ADHD and addiction.[7] Longitudinal studies further confirm impulsivity as a developmental pathway from childhood ADHD to adult substance misuse.[8–9]

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METHODOLOGY

Research design and participants: Correlation research design was used in the present study. Male Patients with Addictive Problems/ Behaviors (aged 17-55 years) admitted to Combined Military Hospital (CMH), Lahore, were included in this study. Participants were selected using purposive sampling, including the ones aged above 16 years, able to read and understand English, and currently hospitalized at CMH.

Measures: *Attention Deficit Hyperactive Disorder Scale (ADHD)* assessed symptoms of attention deficit and hyperactivity.

Barratt Impulsiveness Scale (BIS-11) 30 item scale measuring attentional, motor, and non-planning impulsivity.

Procedure: After the approval of ethical committee and taking the permission from the scale developer, the consent of the patients was taken. The researchers briefly introduced themselves to the participants and established rapport with them. Further give a general overview of the purpose of the research was briefly described to the participants. Instructions regarding the questionnaire were provided to the participants. Participants filled the scales in the presence of the researchers. The researchers answered questions seeking clarification of certain items briefly. Questionnaires took about 5-10 minutes to be completed. Participants were assured about the anonymity of the research data that information given by the participants was strictly kept confidential. After the data collection, the data were analyzed.

Analysis: Statistical analysis was used in this study Descriptive statistics were applied to find out frequency distributions between ADHD and BIS among group of patients with Addictive Problems/ Behaviors. Pearson product correlation (CI= 95%) was applied to find out relationship between ADHA and BIS among group of patients with Addictive Problems/ Behaviors.

RESULTS

Descriptive Statistics: The sample consisted of 90 male patients with addictive behaviors. The age range was from 17 to 55 years (M = 31.47, SD = 7.85). Table 1 presents the descriptive statistics for ADHD and impulsiveness.

Correlation Analysis: To test the hypothesis that ADHD is positively correlated with impulsiveness, Pearson correlation analysis was conducted. Results revealed a statistically significant positive relationship between ADHD and total impulsiveness scores.

Summary of Findings

- There is a significant positive correlation between ADHD and impulsiveness (r = .63, p < .01).
- All subscales of impulsiveness, Attention (.58**), motor (.48**), non-planning (.49**) also showed significant positive correlations with ADHD.

Table 1 Descriptive Statistics of ADHD and Impulsiveness (N = 90)

Variable	Minimum	Maximum	Mean	SD
ADHD Total Score	15	60	38.72	8.53
BIS-11 Total Score	42	90	66.13	9.24
Attentional Impulsivity	10	24	16.35	3.41
Motor Impulsivity	12	30	22.87	4.02
Non-planning Impulsivity	14	36	26.91	4.75

Table 2 Correlation between ADHD and Impulsiveness (N = 90)

Variables	1	2	3	4	5
1. ADHD Total Score	—				
2. BIS-11 Total Score	.63**	—			
3. Attentional Impulsivity	.58**	.71**	—		
4. Motor Impulsivity	.45**	.62**	.41**	—	
5. Non-planning Impulsivity	.49**	.59**	.37**	.48**	—

Note: *p* < .05, p < .01

DISCUSSION

The present study examined the association between ADHD symptoms and impulsivity among male patients with addictive behaviors admitted to Combined Military Hospital (CMH), Lahore. The findings supported the study hypothesis, demonstrating a significant positive correlation between ADHD symptoms and total impulsivity, as well as attentional, motor, and non-planning impulsivity. These results suggest that individuals with higher ADHD symptom severity are more likely to exhibit heightened impulsive tendencies.

These findings are consistent with existing literature indicating that impulsivity is a core feature of ADHD across developmental stages and contributes substantially to functional impairment.[2,10] Studies utilizing the Barratt Impulsiveness Scale (BIS-11) have also reported significantly higher attentional and motor impulsivity scores among adults with ADHD compared with non-ADHD controls.[11]

Moreover, the current findings align with international research reporting high prevalence rates of ADHD among individuals with substance use disorders. Meta-analytic evidence suggests that approximately 30% of SUD patients meet criteria for ADHD, with this comorbidity associated with earlier substance initiation, greater addiction severity, and more rapid progression to dependence.[12,13] Impulsivity has been widely recognized as a key mechanism underlying the increased susceptibility to addiction among individuals with ADHD.[14]

Support for these findings is further provided by neurobiological models demonstrating shared dysfunctions in frontostriatal and reward circuitry in both ADHD and addiction. Deficits in inhibitory control and reward processing increase vulnerability to impulsive decision-making, which may explain the strong association between ADHD symptoms and attentional and non-planning impulsivity observed in this study.[7]

In addition, previous research indicates that behavioral addictions such as excessive internet use, gaming, and gambling are more prevalent among individuals with ADHD due to heightened impulsivity and impaired inhibitory control.[15,16] Recent studies emphasize the importance of early clinical evaluation and structured interventions for individuals with ADHD and high impulsivity to prevent worsening addictive behaviors.[17]

Concerns regarding stimulant treatment increasing addiction risk have been largely refuted by longitudinal studies, which demonstrate that childhood stimulant treatment does not elevate later substance abuse risk and may, in fact, be protective.[18,19] These findings underscore the importance of early identification and treatment of ADHD, particularly in high-risk populations.

Despite its contributions, the present study has limitations, including its cross-sectional design, which precludes causal inference, and limited generalizability due to an all-male, hospital-based sample. Reliance on self-report measures may also introduce response bias. Future longitudinal studies incorporating diagnostic interviews and behavioral measures of impulsivity are warranted.

Overall, the findings strengthen existing evidence linking ADHD symptoms with impulsivity and increased vulnerability to addictive behaviors, highlighting the need for integrated assessment and targeted interventions within addiction treatment settings.

CONCLUSION

The present study found a significant positive correlation between Attention-Deficit/Hyperactivity Disorder (ADHD) and impulsiveness among male patients with addictive behaviors at Combined Military Hospital (CMH), Lahore. All subtypes of impulsiveness attentional, motor, and non-planning were strongly associated with ADHD symptoms. These findings align with previous research suggesting that individuals with ADHD are at greater risk for substance use disorders due to heightened impulsivity. Early diagnosis and targeted interventions may help mitigate these risks. Addressing impulsivity in ADHD patients could be a critical component in addiction treatment strategies. Further research is recommended to explore gender differences and long-term outcomes.

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