THE RELATIONSHIP BETWEEN SUBSTANCE ABUSE AND VIOLENT BEHAVIOR IN PATIENTS WITH SCHIZOPHRENIA

By:

Fx. Wahyu Widiantoro[1], Finda Pensiuna Wati[2]

[1,2]Fakultas Psikologi Universitas Proklamasi 45 Yogyakarta

Email: wahyuant.up@gmail.com, findapensiunawati7@gmail.com

ABSTRACT

Substance abuse is often associated with violent behavior, particularly in patients with mental disorders such as schizophrenia. The combination of psychotic symptoms and the psychoactive effects of substances can worsen impulse control and increase the risk of aggressive actions. This study aims to analyze the relationship between substance abuse and violent behavior in patients with schizophrenia. This quantitative study employed a descriptive correlational design. The sample consisted of 100 respondents who met the inclusion criteria, selected using purposive sampling. Data were collected through questionnaires distributed online via social media. Data analysis was performed using simple linear regression tests with SPSS software. The findings revealed that substance abuse significantly affects violent behavior ($p < 0.05$). The regression coefficient of 0.947 indicates a positive relationship between the two variables. The R^2 value of 0.621 indicates that 62.1% of the variance in violent behavior can be explained by substance abuse, while the remaining 37.9% is influenced by other factors. This study found that substance abuse is a significant factor influencing violent behavior in patients with schizophrenia. Rehabilitation-based interventions for substance abuse and emotional regulation, such as Cognitive Behavioral Therapy (CBT), are essential to reduce the risk of violence in this population. This study provides empirical evidence for developing more holistic policies and intervention programs in managing patients with schizophrenia and substance abuse.

Keywords: Substance Abuse, Violent Behavior, Schizophrenia, Forensic Psychology, Holistic Intervention.

I. RESEARCH BACKGROUND

Schizophrenia is a severe mental disorder characterized by disturbances in thinking, emotions, and behavior (Amin et al., 2021). This condition often impacts the quality of life of individuals who experience it, their families, and society at large (Girasek et al., 2022). According to data from the World Health Organization (WHO), the global prevalence of schizophrenia is

estimated to affect around 1% of the population, with Indonesia being one of the countries with a significant number of cases. Schizophrenia not only imposes a burden on healthcare systems but also presents complex social challenges (Temmingh et al., 2021).

One aspect that complicates the management of schizophrenia patients is comorbidities, such as substance abuse. Previous studies have shown that individuals with schizophrenia are at a higher risk of engaging in substance abuse compared to the general population (Lau et al., 2021). This abuse often involves alcohol, narcotics, psychotropic substances, and other addictive substances. Factors such as emotional instability, stress, and limited social support are frequently the main triggers (Cruz et al., 2021).

Substance abuse in schizophrenia patients not only worsens psychotic symptoms but also increases the likelihood of violent behavior (Sudirman & Hasan, 2022). Such violence includes verbal aggression, physical attacks, and other aggressive acts. Studies reveal that the interaction between schizophrenia and substance abuse can lead to impaired impulse control, paranoid delusions, and behavior that endangers both the patient and others. This condition poses significant challenges in managing patients, both in healthcare facilities and in the community (Nath et al., 2022).

In Indonesia, these challenges are further complicated by the stigma attached to schizophrenia patients and substance abuse. This stigma often delays diagnosis, treatment, and adequate rehabilitation. Moreover, access to mental health services in Indonesia remains limited, especially in remote areas. This exacerbates the situation, leaving patients without optimal care and increasing the risk of violent behavior (Sudirman & Hasan, 2022).

The relationship between substance abuse and violent behavior in schizophrenia patients has drawn research attention globally. However, empirical data on this relationship in Indonesia remains scarce. Understanding this relationship is important for designing effective interventions to prevent and manage violence in this population.

International studies have identified key risk factors that strengthen the connection between substance abuse and violence in schizophrenia patients, such as a history of trauma, neurotransmitter imbalances, and unsupportive social environments (Camus et al., 2021). However, Indonesia's cultural and social context requires more specific approaches. For example, social norms, religious values, and community support play essential roles in influencing patient behavior.

Evidence-based approaches are vital in addressing this issue. Research on the relationship between substance abuse and violent behavior in schizophrenia patients in Indonesia can provide deeper insights into the mechanisms underlying this phenomenon. Such findings could serve as a foundation for designing more inclusive and effective mental health policies.

The primary aim of this study is to explore the relationship between substance abuse and violent behavior in schizophrenia patients in Indonesia. By understanding this relationship, interventions can focus on reducing the risk of violence by controlling substance abuse. This study also seeks to identify factors that strengthen this relationship, enabling the application of a more holistic approach.

Through this research, patterns or trends relevant to Indonesia's context are expected to emerge. For instance, how the type of substance abused influences the level of violence or how differences in geographical regions and patients' socioeconomic status impact this relationship. Such insights are crucial for creating targeted and measurable interventions.

Addressing these challenges requires collaboration among stakeholders. The government, healthcare professionals, patients' families, and the broader community need to synergize to provide adequate support. Public policies that enhance access to mental health services and substance abuse rehabilitation programs must become priorities.

By integrating medical and social approaches, this research is expected to make a significant contribution to reducing violence rates among schizophrenia patients with substance abuse comorbidities in Indonesia. Furthermore, the study's findings could serve as a reference for developing future policies and intervention programs.

Amid increasing attention to mental health, the issue of violence in schizophrenia patients with substance abuse cannot be overlooked. This research aims to address the urgent need for comprehensive data and analysis to enable more effective prevention and management of violence.

II. THEORETICAL FRAMEWORK

Substance abuse is a condition in which individuals continuously use psychoactive substances that can lead to physical, psychological, or social disorders (Nath et al., 2022). In the context of forensic psychology, substance abuse is often associated with an increased risk of impulsive, aggressive, and violent behavior. Substances such as alcohol, cannabis, and amphetamines have a direct impact on the central nervous system, reducing an individual's ability

to control emotions and behavior, thereby increasing the likelihood of violent actions (Cruz et al., 2021).

Substance abuse affects brain areas such as the amygdala and prefrontal cortex, which play a role in emotional regulation and decision-making. Psychoactive substances disrupt the function of neurotransmitters, such as dopamine and serotonin, making individuals more impulsive and less able to restrain aggressive impulse (Girasek et al., 2022). This theory explains why individuals with substance abuse have a higher risk of engaging in violence, especially when triggered by conflict or social pressure.

Violence is defined as aggressive actions aimed at harming others, either physically or psychologically (Caruso et al., 2021). In forensic psychology, violence is often viewed as the result of an interaction between biological, psychological, and social factors. Individuals with mental disorders, such as schizophrenia, or those who engage in substance abuse, tend to have a higher risk of violent behavior due to impaired impulse control and distorted perceptions (Amin et al., 2021).

According to strain theory, individuals who experience severe emotional distress or social conflict tend to seek release through violent actions (Lau et al., 2021). Substance abuse is often used as a coping mechanism to deal with this distress but ultimately exacerbates impulsivity and the risk of violence. In a forensic context, this theory is relevant for understanding how environmental pressures, such as social stigma or interpersonal conflict, can trigger violence.

Previous studies have shown that substance abuse has a strong correlation with violent behavior. A study by Temmingh et al. (2020) revealed that individuals who abuse substances have up to nine times the risk of engaging in violent behavior compared to the general population. This relationship is even stronger in individuals with comorbid mental disorders, such as schizophrenia, which further impairs impulse control and emotional stability .

Social stigma often worsens the condition of individuals involved in substance abuse. This stigma not only prevents individuals from seeking treatment but also increases the risk of social isolation and interpersonal conflict, which ultimately heightens the likelihood of violent behavior. In Indonesia, stigma surrounding mental disorders and substance abuse remains a significant challenge in rehabilitation efforts (Amin et al., 2021).

Schizophrenia patients who also abuse substances have a higher risk of violent behavior compared to those without substance abuse (Nurtias & Yusuf, 2024). This is due to the interaction

between psychotic symptoms, such as delusions and hallucinations, and the psychoactive effects of substances used. This combination disrupts reality perception and emotional regulation, triggering aggressive behavior (Gosek et al., 2021).

This theory explains that substance abuse can impair an individual's ability to control impulses and respond to situations rationally. When impulse control is compromised, individuals become more prone to reacting aggressively to conflict or pressure. In forensic psychology, this theory is used to understand violent behavior that arises as a direct consequence of psychoactive substance use (Wibowo et al., 2022).

Research indicates that childhood trauma, such as physical or emotional abuse, can increase the risk of substance abuse and violent behavior later in life. Individuals who experience trauma often use psychoactive substances as a means of escape, which only worsens their psychological condition and increases the risk of violence (Lau et al., 2021).

This theory and related research underscore the importance of a holistic rehabilitation approach in addressing substance abuse and violence. Interventions such as Cognitive Behavioral Therapy (CBT), Dialectical Behavior Therapy (DBT), and community-based support programs have been proven effective in reducing substance abuse and the risk of violence. This approach not only focuses on the individual but also involves families and social environments to create sustainable change (Nurtias & Yusuf, 2024).

III. RESEARCH METHODOLOGY

This study employed a quantitative approach with a descriptive correlational design to identify the relationship between substance abuse and violent behavior in patients with schizophrenia. The population in this study consisted of schizophrenia patients with a history of substance abuse in Indonesia. The sample was selected using purposive sampling, comprising 100 respondents. The inclusion criteria for respondents were individuals aged 18 years or older, diagnosed with schizophrenia based on medical records, and having a history of substance abuse, such as alcohol, narcotics, psychotropics, or other addictive substances. Respondents provided informed consent before participating in the study.

Data were collected using a structured questionnaire comprising three main sections: demographic information (age, gender, education, and occupation), data related to substance abuse (type, duration, and intensity of use), and a scale measuring violent behavior, including the

frequency and types of violence committed, both physical and verbal. The questionnaire was designed using Google Forms and distributed online through social media platforms such as WhatsApp, Facebook, and Instagram over a two-week period. This method was chosen to effectively and efficiently reach respondents dispersed geographically.

Before implementation, the research instrument was tested for validity and reliability through a pilot test involving 20 respondents. Validity was assessed using Pearson correlation, while reliability was measured with Cronbach's Alpha, with a value of ≥0.7 indicating a good level of reliability. The collected data were analyzed using SPSS (Statistical Package for the Social Sciences) software. The analysis included descriptive statistics to describe the characteristics of respondents and data distribution, Pearson correlation to measure the relationship between substance abuse and violent behavior, and simple linear regression to evaluate the effect of substance abuse on the intensity of violent behavior.

This study was conducted with careful attention to research ethics. Respondents' consent was obtained through informed consent that explained the purpose of the research, and the confidentiality of their personal data was guaranteed. All collected data were used solely for research purposes without involving respondents' identities directly. This study aims to provide significant contributions to understanding the relationship between substance abuse and violent behavior in schizophrenia patients in Indonesia.

IV. RESULT AND DISCUSSION
Pilot Test
The results of the research instrument tests conducted during the pilot test are as follows:

Table 1. Validity Test Result

SA	Substance Abuse	Pearson Correlation	Validity
SA1	I have used psychoactive substances (such as alcohol, cannabis, or narcotics) in my life.	0.812	Valid
SA2	I frequently used psychoactive substances in the past few months.	0.807	Valid
SA3	The types of substances I used include illegal substances such as narcotics or cannabis.	0.895	Valid
SA4	I find it difficult to stop using the psychoactive substances I consume.	0.852	Valid
SA5	I feel the need to increase the dosage of the psychoactive substances I consume to achieve the same effect.	0.814	Valid

SA6	I have used psychoactive substances to reduce stress or emotional pressure.	0.853	Valid
SA7	I feel that using psychoactive substances affects my daily activities.	0.841	Valid
SA8	I use psychoactive substances as a way to forget problems or escape reality.	0.858	Valid
SA9	I feel dependent on the psychoactive substances I consume.	0.876	Valid
SA10	I have received warnings or feedback from family/friends regarding my habit of using psychoactive substances.	0.888	Valid
VB	**Violent Behavior**		
VB1	I have committed physical violence against others.	0.856	Valid
VB2	I often say harsh or hurtful words to others.	0.873	Valid
VB3	I find it difficult to control my emotions when facing conflicts.	0.881	Valid
VB4	I have damaged objects when feeling angry or frustrated.	0.826	Valid
VB5	I feel that the violence I commit is often beyond my control.	0.805	Valid
VB6	I feel that my violent actions are triggered by the influence of psychoactive substances.	0.794	Valid
VB7	I often find myself involved in conflicts that end in violent behavior.	0.803	Valid
VB8	I have felt guilty after committing violent acts.	0.728	Valid
VB9	I believe that violence is an effective way to resolve conflicts.	0.894	Valid
VB10	I feel that my violent actions are influenced by environmental conditions or social pressure.	0.895	Valid

Validity testing was conducted to ensure that each item in the research instrument accurately measures the intended construct. Based on the validity test results in Table 1, all items from the Substance Abuse and Violent Behavior variables demonstrated Pearson Correlation values greater than 0.7. This indicates that all items in the instrument possess good validity.

Table 2. Reliability Test Result

Variables	Cronbach's Alpha	Reliability
Substance Abuse (SA)	0.957	Reliable
Violent Behavior (VB)	0.950	Reliable

The reliability test was conducted to measure the internal consistency of the research instrument. Based on the results in Table 2, the Cronbach's Alpha value for the Substance Abuse (SA) variable is 0.957, while for the Violent Behavior (VB) variable, it is 0.950. Both values exceed the commonly used reliability threshold of 0.7, indicating that the instrument has a very high level of reliability.

Research Result

The results of the hypothesis testing in this study are as follows:

Table 3. Simple Regression Test Result

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	0.069	3.016		0.023	0.982
	Substance Abuse	0.947	0.075	0.788	12.670	0.000

The t-test results in Table 3 show the relationship between the independent variable, Substance Abuse, and the dependent variable, Violent Behavior. According to the table, the regression coefficient (B) for the Substance Abuse variable is 0.947, with a standard error of 0.075. This coefficient indicates that each one-unit increase in the Substance Abuse variable will increase the Violent Behavior score by 0.947, assuming other variables remain constant. The t-value of 12.670 with a significance level (Sig.) of 0.000 indicates that the relationship between Substance Abuse and Violent Behavior is statistically significant at a 95% confidence level ($p < 0.05$). In other words, Substance Abuse has a significant impact on Violent Behavior, and the null hypothesis (no relationship between the two variables) can be rejected.

Additionally, the standardized Beta value is 0.788, indicating that Substance Abuse has a substantial contribution to explaining the variation in Violent Behavior. This value suggests that Substance Abuse is a strong predictor of Violent Behavior in this model. The constant value (Constant) of 0.069 with a significance of 0.982 indicates that in the absence of substance abuse, the Violent Behavior score is nearly zero and not statistically significant. This underscores that Substance Abuse is a crucial variable influencing violent behavior.

Tabel 4. R^2 Test Result

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.788[a]	0.621	0.617	3.903

Based on Table 4, the results of the determination test (R^2) indicate that the R^2 value is 0.621. This means that 62.1% of the variation in the Violent Behavior variable can be explained by the Substance Abuse variable in this model. In other words, the relationship between substance

abuse and violent behavior makes a significant contribution to explaining respondents' violent behavior.

The Adjusted R^2 value of 0.617 indicates that after accounting for the number of variables in the model, 61.7% of the variability in Violent Behavior can still be explained by Substance Abuse. This adjustment ensures that the model remains stable and is not overfitted to the data. The R-value of 0.788 indicates that the correlation between Substance Abuse and Violent Behavior is strong. This relationship suggests that the higher the level of substance abuse, the greater the tendency for violent behavior among respondents.

Additionally, the Std. Error of the Estimate value of 3.903 represents the model's prediction error. This value indicates how far the predicted values from the model deviate from the actual values. Despite this deviation, the model still performs well in explaining the relationship between the independent variable (Substance Abuse) and the dependent variable (Violent Behavior). Overall, the R^2 test results demonstrate that the regression model used is relatively strong and capable of explaining most of the variation in Violent Behavior, although there are other factors outside the model that also influence violent behavior.

Discussion

The findings of this study indicate that Substance Abuse has a significant influence on Violent Behavior. A regression coefficient of 0.947 with a significance level of 0.000 confirms that substance abuse is a key predictor of violent behavior. Statistically, the Substance Abuse variable explains 62.1% of the variation in Violent Behavior ($R^2 = 0.621$). This implies that while other factors may also influence violent behavior, substance abuse plays a very strong role. This is consistent with various theories in forensic psychology, which emphasize that the use of psychoactive substances can impair cognitive function, hinder self-control, and increase impulsivity, making individuals more prone to aggressive or violent acts.

From a neurobiological perspective, the abuse of psychoactive substances such as alcohol, cannabis, and narcotics is known to affect the function of the brain's limbic system, including the amygdala and prefrontal cortex. The limbic system, which regulates emotions, often becomes destabilized due to substance use, leading to heightened impulsive responses to stressful or conflict-triggering situations. When the prefrontal cortex is impaired, individuals lose the ability to make rational decisions and control aggressive impulses.

Research by Temmingh et al. (2020) also found that patients with mental disorders, including schizophrenia, who have comorbid substance abuse, have a much higher risk of violent behavior, up to nine times greater than patients without substance abuse. This underscores that substance abuse is a significant risk factor for violence.

In a psychosocial context, substance abuse often exacerbates an individual's social conditions. Prolonged substance use can lead to social isolation, stigma, and the breakdown of interpersonal relationships. This increases the likelihood of conflicts, both within family settings and in the community, which often escalate into violent acts.

Psychosocial theories highlight that social pressures, lack of family support, and unstable environments intensify the impact of substance abuse on violent behavior. Previous studies in Indonesia have shown that limited access to mental health services and the stigma attached to patients with substance abuse often prevent individuals from receiving adequate help, thereby increasing the risk of violence.

This study also supports the strain theory in forensic psychology, which posits that stress arising from social tensions, economic pressures, and interpersonal conflicts can trigger violent behavior, particularly in individuals who use psychoactive substances as a coping mechanism. While this mechanism may provide temporary relief, it ultimately worsens their ability to manage conflicts in a healthy way.

The findings of this study are also consistent with Didier Camus et al. (2020), who found that psychiatric patients with substance abuse tend to exhibit more frequent violent behavior, especially in high-pressure environments such as inpatient settings or healthcare facilities. Furthermore, research by Lau et al. (2021) highlights that childhood trauma, such as violence or emotional neglect, often increases the risk of substance abuse later in life, which directly elevates the likelihood of violent behavior. This indicates the existence of a cycle involving trauma, substance abuse, and violence that must be addressed through comprehensive interventions.

In the context of Indonesia, these findings are particularly relevant. The prevalence of severe mental disorders such as schizophrenia in Indonesia is 7 per 1,000 households, with many patients also experiencing comorbid substance abuse. Social stigma against patients with mental disorders and substance abuse often worsens their condition, as individuals are less likely to seek treatment or support. This creates challenges for mental health service providers in managing complex and high-risk cases.

From an intervention perspective, these findings highlight the importance of rehabilitation programs that integrate substance abuse management and violence control. Programs such as Cognitive Behavioral Therapy (CBT) and Dialectical Behavior Therapy (DBT) can help individuals identify maladaptive thought and behavior patterns, manage emotions, and develop healthy coping strategies. Additionally, community-based programs that provide social support, family counseling, and education on the risks of substance abuse can help prevent violence associated with this comorbidity.

Overall, this study not only confirms the relationship between substance abuse and violence but also provides valuable insights for developing evidence-based interventions. Multidisciplinary approaches involving medical, psychological, and social aspects are crucial to reducing the adverse effects of substance abuse and violence on both individuals and society as a whole.

V. CONCLUSION

This study shows that substance abuse has a significant impact on violent behavior, contributing 62.1% to the variation in violent behavior. These findings confirm that the higher the level of substance abuse, the greater the tendency for individuals to engage in violent acts, both verbal and physical. This aligns with forensic psychology theories and previous research indicating that psychoactive substances can impair cognitive function, increase impulsivity, and reduce self-control, triggering aggressive behavior. In a social context, substance abuse also worsens interpersonal relationships and increases conflicts that may lead to violence. Therefore, substance abuse is a key factor that should be prioritized in efforts to prevent and manage violent behavior, particularly in patients with mental disorders such as schizophrenia.

Based on these findings, an integrated substance abuse rehabilitation program that incorporates emotional regulation and conflict management approaches is necessary to reduce the risk of violence. Programs such as Cognitive Behavioral Therapy (CBT) and Dialectical Behavior Therapy (DBT) can be implemented to help individuals manage their emotions effectively and reduce impulsivity. Additionally, improving access to mental health services in communities, particularly in Indonesia, is essential to mitigate the adverse effects of stigma on patients with mental disorders and substance abuse. Community support and education for patients' families are also needed to create a supportive environment for recovery and prevent violence caused by

substance abuse. Further research is recommended to explore other factors influencing violent behavior and to develop more comprehensive intervention models.

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