

1 **FACTORS LEADING TO RELAPSE IN SUBSTANCE USE DISORDER PATIENTS - A CROSS-SECTIONAL**  
2 **STUDY**

3

4 **INTRODUCTION**

- 5 • Substance Use Disorder (SUD) is a chronic relapsing disorder characterized by compulsive  
6 substance use despite harmful consequences.<sup>1</sup>
- 7 • Relapse is defined as the return to substance use after a period of abstinence following  
8 treatment or self-initiated cessation.<sup>2</sup>
- 9 • Relapse is a common outcome in substance use disorders, with studies reporting rates of 40–  
10 60% following treatment.<sup>3</sup>
- 11 • Substance use disorders share characteristics with other chronic medical illnesses, including  
12 cycles of remission and relapse.<sup>3</sup>
- 13 • Multiple biological, psychological, and social factors contribute to relapse, including stress,  
14 craving, environmental cues, peer influence, and poor treatment adherence.<sup>4</sup>
- 15 • Identifying factors associated with relapse is essential to improve treatment outcomes and  
16 relapse prevention strategies.
- 17 • Therefore, the present study was conducted to estimate the proportion of relapse and  
18 identify factors associated with relapse among patients with substance use disorder.

19 **REVIEW OF LITERATURE**

- 20 • Substance use disorder is widely recognized as a chronic relapsing condition, with many  
21 individuals returning to substance use even after treatment and periods of abstinence.<sup>1</sup>
- 22 • Previous studies have reported relapse rates ranging from 40–60% following treatment,  
23 highlighting the recurrent nature of substance dependence.<sup>2</sup>
- 24 • Research indicates that relapse commonly occurs within the first year after treatment,  
25 particularly during the early months of abstinence.<sup>3</sup>
- 26 • Studies have also demonstrated that substance use disorders share similarities with other  
27 chronic medical illnesses, requiring long-term management and continuous care.<sup>2</sup>
- 28 • Several biopsychosocial factors have been identified as contributors to relapse, including  
29 peer pressure, family history of substance use, stressful life events, craving severity, and poor  
30 treatment adherence.<sup>4</sup>
- 31 • Psychological factors such as stress, negative emotional states, and environmental cues have  
32 been shown to increase vulnerability to relapse.<sup>5</sup>
- 33 • Low social support, inadequate coping strategies, and poor engagement with treatment  
34 programs have also been associated with higher relapse rates in substance use disorder.<sup>4</sup>
- 35 • Understanding these determinants is important for developing effective relapse prevention  
36 strategies and improving long-term outcome

37 **OBJECTIVES –**

- 38 • To estimate the proportion of relapse in substance use disorder patients.  
39 • To determine the risk factors associated with relapse in substance use disorder patients

40 **Inclusion Criteria:**

- 41 1. Individuals above 18 years of age and those who are willing to participate in studies.  
42 2. Individuals who are meeting substance dependence criteria according to DSM-5 TR  
43 criteria and relapsed atleast once.

44 **Exclusion Criteria:**

- 45 1.Those who have psychiatric illness before the onset of substance dependence.

46 **METHODOLOGY**

47 **1. Source of Data:**

48 The study was an observational cross-sectional study conducted on the inpatients admitted  
49 in Sapthagiri Hospital, Sapthagiri Institute of Medical Sciences and Research Centre,  
50 Bengaluru

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52 **2. Study Design**

53 The study is a cross sectional study

54 **3. Study Duration**

55 The study was conducted over a period of 18 months, from May 2024 to October 2025.

56 **4. Study Population**

57 The study population consisted of patients diagnosed with Substance Use Disorder (SUD)  
58 attending the psychiatry department during the study period.

59

60 **5. Screening of Participants**

61 During the study period, a total of 680 patients with substance use disorder were screened.

62 **6 .Identification of Relapse**

63 Among the screened patients, 530 patients were identified to have relapse.

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65 **7. Study Sample**

66 Out of the 530 patients with relapse, 100 participants fulfilling the inclusion criteria and  
67 consenting to participate were included for detailed assessment.

68

69 **8. Sampling Method**

70 Consecutive sampling method was used to recruit eligible participants attending the  
71 treatment center during the study period.

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73 **9. Data Collection**

74 Data were collected using a structured proforma through direct clinical interview with the  
75 participants.

76 **Variables Assessed**

77 **1) Sociodemographic variables**

- 78 • Age
- 79 • Gender
- 80 • Education
- 81 • Occupation
- 82 • Marital status
- 83 • Parental status

84 **2) Clinical variables**

- 85 • Age of onset of substance use
- 86 • Psychiatric comorbidity
- 87 • Family history of substance use
- 88 • Peer pressure
- 89 • Craving severity
- 90 • Treatment adherence
- 91 • Exposure to triggers
- 92 • Stressful life events
- 93 • Type of substance used
- 94 • Duration of abstinence
- 95 • Number of relapses

96 **Sample Size Estimation**

97 The sample size was estimated using the formula based on the previous study conducted by  
98 *Rampure R. et al.*

$$N = \frac{4pq}{d^2}$$

99 Where:

- 100 • **p** = prevalence rate of relapse = 55.4%
- 101 • **q** = 100 – p = 44.6%

- 102 • **d** = absolute precision (10%)  
103 •  $N = \frac{4 \times 55.4 \times 44.6}{10^2} = 98.86 \approx 100$   
104 • Hence, the **sample size was determined to be 100 patients.**

105 **STATISTICAL ANALYSIS –**

- 106 • Data were analyzed using descriptive and inferential statistics.  
107 • Sociodemographic and clinical variables were summarized using frequency, percentage,  
108 mean, and standard deviation.  
109 • Prevalence of relapse was calculated as the proportion of relapse cases among the total  
110 substance use disorder patients screened during the study period.  
111 • Association between variables and number of relapses was assessed using Pearson’s Chi-  
112 square test or Fisher’s Exact test where appropriate.  
113 • A p-value < 0.05 was considered statistically significant.

114 **RESULTS**

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116 Out of 680 patients with substance use disorder screened, 530 (77.9%) had relapse.  
117 Among the 100 participants analyzed, the mean age was  $38.63 \pm 11.71$  years, with a  
118 predominance of males (97%). The mean age of onset of substance use was  $21.78 \pm$   
119  $5.46$  years. Alcohol was the most commonly used substance (91%). Relapse most  
120 frequently occurred within  $\leq 3$  months of abstinence (41%). Significant factors  
121 associated with higher relapse frequency included early age of onset ( $p < 0.001$ ),  
122 unemployment ( $p < 0.001$ ), lower education ( $p < 0.001$ ), marital status ( $p < 0.001$ ),  
123 parental status ( $p < 0.001$ ), family history of substance use ( $p < 0.001$ ), peer pressure  
124 ( $p < 0.001$ ), stressful life events ( $p < 0.001$ ), poor treatment adherence ( $p < 0.001$ ),  
125 and exposure to triggers ( $p < 0.001$ ). No significant association was observed with  
126 age, gender, psychiatric comorbidity, or type of substance used.

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128 **CONCLUSION**

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130 • The present study aimed to identify the factors leading to relapse among patients with  
131 substance use disorder using a cross-sectional research design. The findings revealed that  
132 relapse was more common among middle-aged adults and predominantly among male  
133 participants. Early initiation of substance use, particularly during adolescence and early  
134 adulthood, was observed among a large proportion of participants, suggesting that early  
135 exposure to substances may contribute to long-term dependence and relapse.  
136 • Several psychosocial factors were identified as important contributors to relapse. Peer  
137 pressure was reported by a significant proportion of participants, indicating the strong  
138 influence of social environments on substance use behaviors. Psychological factors such as  
139 anxiety and depression were also present among some participants, highlighting the role of  
140 mental health in relapse vulnerability. Additionally, a considerable number of individuals  
141 reported exposure to triggers, stressful life events, and moderate to severe cravings, which  
142 may increase the likelihood of relapse.

- 143 • Alcohol was identified as the most commonly used substance among the participants. The  
144 study also found that many individuals experienced relapse within a relatively short duration  
145 of abstinence, emphasizing the importance of continuous monitoring and support during the  
146 recovery process. Repeated relapse episodes among several participants further highlight  
147 the chronic and recurrent nature of substance use disorders.
- 148 • Overall, the findings of the study underscore the need for comprehensive treatment  
149 approaches that address psychological, social, and behavioral factors associated with  
150 relapse. Effective relapse prevention strategies, improved treatment adherence, psychosocial  
151 support, and ongoing follow-up care are essential for promoting sustained recovery among  
152 individuals with substance use disorders.

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