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Research Article

Effect of Psychosocial Intervention on Motivation and Coping Strategies Among Patients with Substance Use Disorder

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ABSTRACT

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Background: Substance or drug abuse is a significant public health issue, commonly impacts adolescents and young adults of both genders, and is the 4th leading cause of youth-related crime and disability.

Objective: This study was conducted to evaluate the effect of psychosocial intervention on the level of motivation and coping strategies among patients with substance use disorder.

Subjects and Methods: A quasi-experimental pre-test post-test control group design was adopted among 92 patients with substance use disorder (45 in the experimental group and 47 in the control group), selected using a purposive sampling technique. Pre- and post-tests were done for both groups using the Personal Drug Use Questionnaire SOCRATE 8D & brief cope questionnaire. Psychosocial intervention was given only to the experimental group. Descriptive and inferential statistics were employed to evaluate the effect using SPSS version 21 at a 0.05 level of significance.

Results: The study results reveal that in the experimental group, 24.4% of subjects had a very high level of motivation, and in post-intervention, it increased to 86.7%, which is very high in comparison to the control group (34%). In response to coping, in the experimental pre-test group, 20% had poor coping, whereas in the control group, 19% had poor coping; after the intervention, all subjects developed good coping in both the experimental and control groups. Hence, it is suggestive that psychosocial intervention has a positive impact on the level of motivation and coping among patients with substance use disorder. The experimental group showed significant enhancements in the level of motivation and coping strategies in comparison to the control group following the intervention. Psychosocial intervention showed statistically significant differences in level of motivation ($t(90) = 7.39, p < 0.001$; Cohen's $d = 1.54$) and coping ($t(90) = 9.04, p < 0.001$; Cohen's $d = 1.88$), indicating very large effect sizes. No significant association was found between outcome variables and selected socio-demographic characteristics.

Conclusions: The psychosocial intervention was effective in improving motivation and coping strategies among patients with substance use disorders.

Introduction

Substance or drug abuse is a significant public health issue that commonly impacts adolescents and young adults of both genders. It is the 4th leading cause of youth-related crime and disability and contributes to various health problems within communities. Additionally, it poses risks to unborn children and can lead to the breakdown of family dynamics.^{1,2}

Drug use disorder refers to the abuse of drugs (or substances) along with physiological and psychological dependency on drugs used for non-therapeutic purposes, imposing a negative impact on society and personal health.³

In India, as per a national survey, psycho active substances are widely used, and the prevalence of substances like alcohol, cannabis, and opioids among youth aged between 10 and 75 years was 14.6%, 2.8%, and 2.1%, respectively.⁴ The prevalence of SUDs is high and varies across countries, the type of drugs used (highest for tobacco and alcohol use disorders), as well as by demographic and socioeconomic characteristics of the populations.⁵

Several studies have highlighted the significance of motivation on relapse prevention and adaptive impact on use of substances and their outcomes. Hence, to prevent relapse and reduce use of substances, abstinence among substance users requires motivation with associated psychosocial factors to play a vital role.^{6,7}

Stress makes an individual use coping as a stabilizing facet and adaptation to biopsychosocial factors.⁸ Psychosocial interventions, including CBT, contingency management, motivational interviewing, and coping skill training, are effective in improving abstinence and for the treatment of alcohol and drug problems, covering a broad array of treatment interventions, which have varied theoretical backgrounds.⁹

Mental health issues like psychological, social, personal, relational, and vocational problems and SUDs are effectively treated by psychosocial interventions and if it combines with pharmacological treatments patient's medication adherence, compliance, and psychomotor development doubles.¹⁰

With a review of the aforementioned studies and considering there are diversity of culture, substances consumed and intention which is highlighting the need for conducting the study among substance users.¹¹

The current study renders a significant contribution to the journal by providing the comprehensive evidence related to the effect of psychosocial intervention in improving motivation among substance users for remaining abstinence and developing healthy coping mechanism to deal with every day stress. As integrative nursing highlights patient centred care and societal benefit as well as awareness which aligns with this study. The findings of the study have practical usability for advancing the psychiatric nurses role in both hospital and community setting and support the importance non-pharmacological measures to treat the substance abusers.

The purpose of this study was to examine the effect of psychosocial intervention on level of motivation and coping strategies among substance use disorder patients.

Subjects and Methods

A non-randomized quasi-experimental (Pre test post test control group design) research design was adopted to assess the effect of psychosocial intervention on level of motivation and coping strategies among patients with substance use disorder from 19th February 2024 to 12th May 2024 at two selected de-addiction centers, such as Steps foundation & New Jeeban Trust Foundation of Bhubaneswar, Odisha for experimental and control group respectively. The setting was selected on the basis of Practicability, Geographical proximity, and economic considerations in terms of time.

Inclusion criteria and Exclusion criteria

Psychiatric patients with substance use disorder who fulfill ICD-10 criteria of mental behavioral disorder, diagnosed by the Psychiatrist, aged between 18 years and ≥ 50 years, willing to participate, and present during the time of data collection. Patients with neurological disorders or chronic mental illnesses presenting in the acute phase or exhibiting psychotic symptoms were excluded from the study.

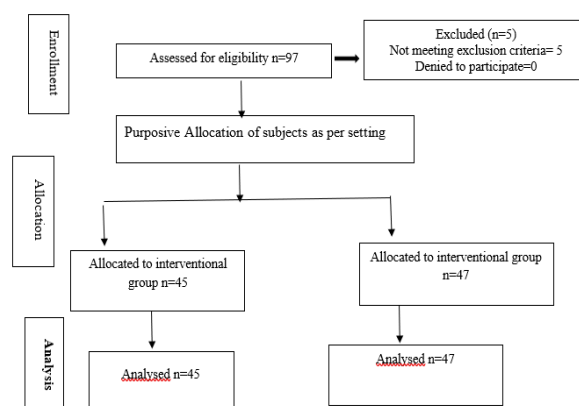


Figure-1: Flow diagram of subject recruitment

Study variables

Demographic variable:

The present study comprises demographic variables like as age, marital status, per capita monthly income, religion, type of family, education, area of residence, occupation, types of substance uses, duration of using substance, previously attended any psychosocial intervention program, family history of using substance.

Outcome variable: Level of motivation and coping strategies

Sample size and sampling procedure

A purposive sampling technique was used to recruit 92 study subjects (45 in experimental and 47 subjects in control group). The sample size was calculated by using solvin's formula.

$$n = \frac{N}{1 + N(e)^2}$$

n= sample size, N= population size (120), e= margin of error (0.05), Sample size- 92

The obtained sample size for the study was 92.31.

Data collection instrument

Personal drug use Questionnaire (SOCRATES8D): It is a standardised tool containing 19 items used to assess the effect of

psychosocial intervention on level of motivation among substance use patients. The tool has been given to five experts for validation, and the Reliability or Cronbach's alpha was 0.80.

Brief-Cope Questionnaire. It is a standardized tool that contains 28 items; this section can possibly assess the effect of psychosocial intervention on the level of coping strategies among substance use patients. The tool was given to five experts for validation, and the reliability Cronbach's alpha was 0.70 from different disciplines, including psychiatrists, psychologists, statisticians, and nursing professionals, based upon their subject, clinical, and research experience.

Data collection procedure

In the first phase, a pilot study was conducted to assess the practicability, economic, and accessibility of the main study from 26th February 2024 to 3rd March 2024 at IMS & SUM Hospital, Bhubaneswar, and Agraha Foundation de-addiction center for the experimental and control groups, respectively, to reduce contamination of subjects. The study was conducted among substance use disorder patients who were meeting inclusion criteria (20 experimental group and 20 Control group) and found to be feasible

As it is a non-randomized study, two different settings, Steps Foundation & New Jeeban Trust Foundation of Bhubaneswar, Odisha, for the experimental and control groups, were selected to reduce selection bias or sample contamination. In the second phase of data collection for the main study, the researcher explained the purpose and content of the study to the subjects while gathering socio-demographic data from the participants. Participants were assured that data confidentiality would be maintained throughout the study. This phase ensured a detailed understanding of the participants' information, level of motivation, and coping strategies by using the Personal Drug Use Questionnaire (SOCRATES8D) and Brief-Cope Questionnaire before psychosocial intervention. The data collection period for the final study was from 15/4/2024 to 12/05/2024.

The psycho social intervention was given to the experimental group by the registered nurse researcher, whereas the control group only received general counseling. It is a non- pharmacological intervention which includes general counseling, motivational education, and relapse prevention given by the researcher. The intervention was given for two weeks every day, excluding Sunday, for 45 minutes, and each group consisted of 4-5 patients with substance use disorder.

A post-test was applied to the experimental group as well as the control group using the Personal Drug Use Questionnaire (SOCRATES8D) and Brief-COPE Questionnaire after one week of the intervention.

Data analysis

The collected data were organized, coded, and entered into a master sheet. The data were evaluated through SPSS 21. Descriptive statistics such as means, standard deviations, and frequency distributions were used to summarize demographic information and baseline characteristics. To test the study hypotheses, inferential statistics including independent t- tests and chi- square tests were applied to evaluate motivation and coping levels and their relationship with socio- demographic variables.

Ethical Consideration

This study was approved by the Institutional Review Board, Sum Nursing College (SOADU/SNC/IRB/431/2023). Ethical clearance was also approved from the Institutional Ethics Committee of SOA University Odisha (Ref. No.: IEC/ IMS.SH/ SOA/ 2024/ 883). Permissions were also secured from the medical superintendent, the head of the mental health department, and relevant staff. Participants were assured of confidentiality and anonymity through code numbers and were given the freedom to withdraw at any point during the study after obtaining informed consent. The participants had the right to ask any questions regarding any kind of doubt or information.

Table 1: Description of Psychosocial Intervention.

Psychosocial Intervention session		
Session	Duration	ontent
I	45 minutes	Introduction to self & study and pre-test.
II	45 minutes	Introduction to substance use, its impact and Consequences of substance use through power point.
III	45 minutes	Relapse prevention Strategies through Socratic questioning and Thought recording
IV	45 minutes	Motivational enhancement therapy by using "5AS" 1. Ask about substance use 2. Advice to maintain abstinence 3. Assess commitment to change 4. Assist patients committed to change by controlling the craving 5. Arrange follow-up to monitor progress.
V	45 minutes	Motivational approaches for self-esteem enhancement include graded task assignment and group discussion for problem solving
VI	45 minutes	Distraction – By engaging in activities (giving tasks such as counting, joining dots, activity scheduling by writing a daily routine) that redirect the client's thinking and divert him or her from the intrusive thoughts.
VII	30 mins	Feedback and Posttest(After one week)

Results

Test for Normality

Prior to inferential analysis, the assumptions for parametric testing were examined. The distribution of the data was assessed using the Shapiro–Wilk test, together with visual inspection of histograms, normal Q–Q plots, and box plots. Skewness and kurtosis values were also examined. Overall, the data showed no substantial deviation from normality; therefore, parametric statistical tests were considered appropriate for the subsequent analyses.

Table 2: Frequency and percentage distribution of demographic characteristics of substance use disorder patients.

Sl. No	Socio-demographic data	Criteria	Experimental group		Control group	
			Frequency (f)	Percentage (%)	Frequency (f)	percentage (%)
1.	Age	18-35	28	62.2	30	63.8
		36-50	15	33.4	14	29.8
		>50	2	4.4	3	6.4
2.	Area of residence	Urban	28	62.2	28	59.6
		Rural	17	37.8	15	31.9
		Slums	-		4	8.5
3.	Religion	Hindu	44	97.8	45	95.7
		Islam	1	2.2	2	4.3
4	Educational qualification	No formal education	3	6.7	7	14.9
		Primary	3	6.7	12	25.5
		Secondary	2	4.4	3	6.4
		Higher secondary	24	53.3	17	36.2
		Graduate and above	13	28.9	8	17.0
5	Marital status	Married	12	26.7	21	44.7
		Unmarried	30	66.7	20	42.6
		Divorced	2	4.4	5	10.6
		Widower	1	2.2	1	2.1
6	Occupation	Unemployed	11	24.4	12	25.5
		Self employed	21	46.7	20	42.6
		Governmental. employed	3	6.7	4	8.5
		Private employed	10	22.2	11	23.4
7	Monthly income (in rupees)	<3000	9	20.0	13	27.7
		3001-6000	3	6.7	9	19.1
		6001-9000	9	20.0	8	17.0
		9001-12000	6	13.3	9	19.1
		>12000	18	40.0	8	17.0
8	Types of family	Nuclear family	30	66.7	18	38.3
		Joint family	15	33.3	20	42.6
		Extended family			9	19.1
9	Types of substance use	Alcohol	21	46.7	20	42.6
		Brown sugar	10	22.2	8	17.0
		Cannabis	1	2.2	1	2.1
		Multiple substances	13	28.9	18	38.3
10	Duration of using substance	<2 year	10	22.2	8	17.0
		2-5 year	7	15.6	16	34.0
		6-10 year	13	28.9	7	14.9
		>10 year	15	33.3	16	34.0
11	Previously attended any psychosocial program	Yes	18	40.0	21	44.7
		No	27	60.0	26	55.3
12	Family history of addiction of substance use	Yes	15	33.3	19	40.4
		No	30	66.7	28	59.6

The table-2 Depict that in experimental group most of the participants (62.2%) were 18-35 year of age group belongs to urban area (62.2%) and were unmarried (66.7) Hindu(97.8%) with a higher secondary education(53.3%), self-employed (46.7%) with (40%) monthly income > 12000 rupees belongs to nuclear family (66.7%). It was also observed that 46.7% of participant were consuming alcohol more than 10 years (33.3) with a family history of addiction (66.7%).

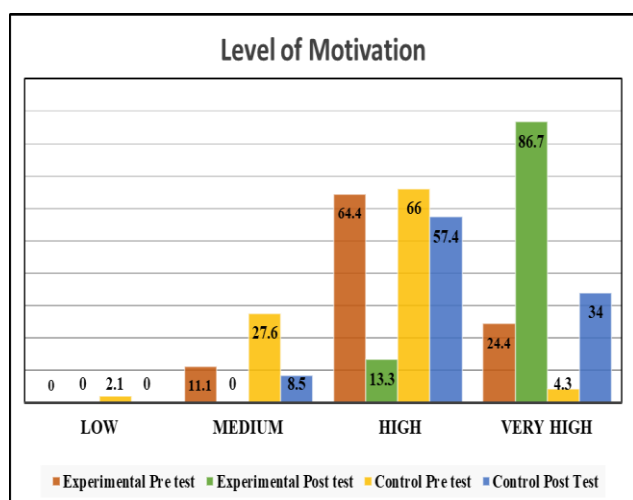


Figure 2: Frequency and percentage distribution to assess the level of motivation of pre-test and post-test scores in both experimental and control groups. N=92

Figure 2 shows that in the experimental pre-test group, 64.4% had a high level of motivation, whereas in the control group, 66% had a high level of motivation along with in the experimental group, 24.4% of subjects had very high level of motivation and in post intervention it increased to 86.7 % which is very high in comparison to control group (34%). Hence it is suggestive that psychosocial intervention has a positive impact on level of motivation.

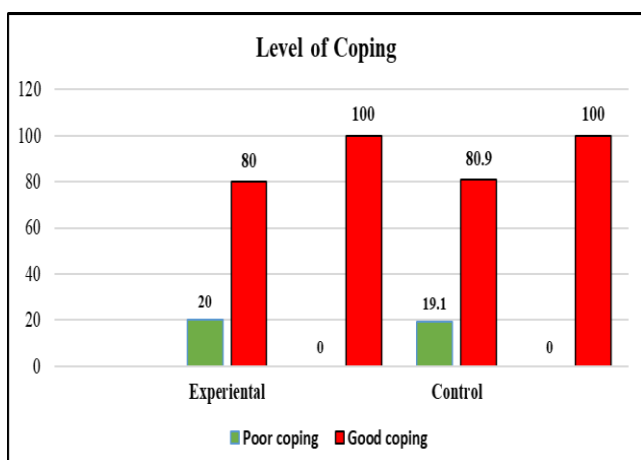


Figure-3: Frequency and percentage distribution to assess the level of coping strategies of pre-test and post-test test score in both experimental and control group. N= 92

Figure 3 revealed that in the experimental pre-test group, 20% had poor coping, whereas in the control group, 19% had poor coping, and after intervention, all subjects developed good coping in both the experimental and control groups.

Table 3 indicated that the experimental group had a higher mean post-test motivation level score (81.22 ± 8.64) compared to the control group (67.15 ± 9.55) at $p < .001$. Motivation scores were significantly higher in the experimental group compared to the control group ($t(90) = 7.39$, $p < 0.001$, Cohen's $d = 1.54$), indicating a large effect size.

In relation to the level of coping mean score (93.31 ± 8.02) of post-test in experimental group was more than mean score of post-test (81.28 ± 4.26) in control group which is extremely statistically suggestive at $p < .001$ coping scores showed a significant difference ($t(90) = 9.04$, $p < 0.001$, Cohen's $d = 1.88$), reflecting a large effect and the psychosocial intervention found to be very effective in enhancing level of motivation and coping among substance used disorder patients.

Table- 3: To find out the effect of psychosocial intervention on level of motivation and on level of coping strategies between experimental and control group post test score by using Independent samples T test.

Outcome Variable	Group	Mean $\pm$ SD	t value	df	p-value
Level of Motivation	Experimental	81.22 $\pm$ 8.64	7.39	90	<.001
	Control	67.15 $\pm$ 9.55			
Level of coping	Experimental	93.31 $\pm$ 8.02	9.04	90	<.001
	Control	81.28 $\pm$ 4.26			

$P < 0.05^*$ (Statistically significant) , SD: Standard Deviation

Association between levels of motivation and coping strategies with selected socio-demographic variables.

The Chi-square test was computed to find the association between the level of motivation and coping strategies with selected socio-demographic variables. No statistically significant association was found in either group, as all p-values were greater than 0.05 for both variables. This suggests that factors such as age, education, occupation, income, family type, marital status, area of residence, monthly income, type of family, type of substance use, duration of substance use, previous exposure to intervention and family history did not significantly influence participants' motivational level and coping strategies in the present study.

Discussion

This study was conducted to find out the effect of Psychosocial intervention on the level of motivation and coping strategies among substance use disorder patients of selected De-addiction centers of Bhubaneswar, Odisha, and to identify associated socio-demographic factors. The findings highlight notable differences in both level of motivation and coping strategies scores between the two groups, as well as the significant positive effect of psychosocial intervention on both the variables.

In the present study, in the experimental group, it was observed that the majority of participants (46.7%) consumed alcohol, whereas (22.2%), (2.2%), and (28.9%) of participants used brown sugar, cannabis, and multiple substances, respectively. In control group the majority of the participants were consume (42.6%) alcohol. The similar studies were conducted by Rani, P. et al., Arya Nair Kovilveetil Showed that majority of abusers preferred substances were tobacco (53.8%) and alcohol (19.7%).^{12, 13}

Interestingly in our study experimental pre-test group 64.4% had high level of motivation where as in control group 66% had high level of motivation along with in experimental group 24.4% of subjects had very high level of motivation and in post intervention it increased to 86.7 % which is very high in comparison to control group. This findings provides an comprehensive insight about the substance used patient's motivational level and by utilizing different alternative therapy like psychosocial therapies SUD patients can highly motivated to be abstinent from the substances and adhere to the treatment regimen.^{14,15} Consistent with study result Enhanced recovery is associated with motivation-driven action-taking; short-term abstinence is supported by recognition; progress is hindered by ambivalence was assessed by using SOCRATES 8D.(16)

The study revealed that in the experimental pre-test group, 20% had poor coping, whereas in the control group, 19% had poor coping, and after intervention, all subjects developed good coping in both the experimental and control groups. Consistent with previous literature, coping is associated with the use of different substances.¹⁷ It highlights that the development of effective coping strategies is essential for long-term recovery, self-control, and can reduce the risk of relapse.^{18,19}

In the present study, the posttest level of motivation of both the experimental and control groups was statistically significant, as evident from the "t" value (7.399) with a p value (<.001), which is statistically significant. Then, the posttest level of coping in both experimental and control groups showed a "t" value (9.040) & p value was (<.001), which is statistically significant.

Regarding the effect of psychosocial intervention on coping strategy, it was found to be very effective in the study, as the mean coping score (93.31 ± 8.02) of the post-test in the experimental group was more than the mean score of the post-test (81.28 ± 4.26) in the control group, which is extremely statistically significant. This study results has similar highlights with another study conducted by Nadia Ahmed Ahmed (2021) who addressed a conclusive result that psychosocial intervention is helpful in improving coping skills and how to avoid craving effectively.^{20,21}

There are some contradictory meta-analysis findings are also evidenced and showed that the literature lacks sufficient evidence supporting the use of psycho social intervention as opposed to alternative therapeutic approaches for significantly improving substance use.²²

Strength of the study

The current study is a non-randomized quasi-experimental study addressing societal issues, i.e motivating the substance users to remain sober, and its strength lies in this. This study ensures homogeneity in both intervention and control group. Strict validation ensured accuracy of tools and intervention package i.e psychosocial intervention and strengthen the efficacy of study intervention. Selection of different study setting for both experimental and control group ensures zero contamination of study samples.

Limitations

The current study has certain limitations. The data collection period was limited to two weeks only. This study employed a purposive sampling technique with limited study samples and settings, which may present selection bias and generalization

decreases to larger populations. In addition to this future study must be conducted with larger sample with randomization.

Implications for practice: The findings of present study can be practically implicated through the evidence based practice and incorporated into clinical guidelines. The nurses are integral part of health care settings and play an important role as health care providers. Psychosocial interventions are as part of the processes of drug treatment and recovery. It continues to play an important role in treating a range of drug problems and addictive behaviours. This intervention could bring benefits to the substance use disorder patients.

Conclusion

Psychosocial intervention was effective in improving motivation and coping strategies among patients with substance use disorders in the current study settings. This non-pharmacological approach may be incorporated into routine clinical care, supported by the current study findings and existing literature.

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Conflict of Interest

There are no disclosed conflicts of interest for the writers.

Data availability

Data are available upon reasonable request.

Author Contributions

NM contributed to conception, study design, data acquisition, analysis, and interpretation; SP contributed to conception, study design, methodology, analysis, drafting, and proofreading of the manuscript; KS contributed to study design, methodology, analysis, revision, and proofreading; SM and RP contributed to data acquisition, analysis, interpretation, and proofreading.

All authors meet the ICMJE criteria for authorship and agree to be accountable for all aspects of the work.

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