

# Appraisal of effectiveness of psychological intervention on perception among tobacco and alcohol addicts in a de-addiction center

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## Abstract

**Background:** Cigarette and alcohol use share common etiological factors and often develop concurrently. The psychological interventions are based on the principle that any type of substance abuse is only due to psychological dependence of an individual toward them, and no drug can substitute the psychological dependence. This can be treated with proper psychological approach alone. Present study was purely based on psychological interventions. **Material and Methods:** The present study was a prospective interventional study conducted in individuals had addiction to tobacco and alcohol, had a moderate-to-high level of dependence (dependence score of >5) and willing to stay as inpatients in the de-addiction centers for the duration of 25–30 days to receive the assigned intervention. Subjects were randomly divided by alternate interview number into two groups as group A- Psychological intervention techniques (reading–writing therapy and games–narrative therapy) and group B- psychological counseling (motivational intervention) alone as a control. The success rate among all the intervention methods employed in the study was compared at the time of admission and at the time of discharge from the de-addiction center. **Results:** In present study, 30 individuals had completed follow up interview at end of 4 weeks (28 days). All were male, majority were from 20-35 years age group (50%), followed by age group 36-50 years (36.67 %). Most of individuals were from lower socioeconomic class (33.33 %) and middle class (26.67 %). In present study subjects common type of tobacco addiction was smoking + chewing (66.67 %). Majority of subjects had addiction for less than 5 years (43.33 %) followed by 5-10 years addiction group (30 %). Subjects were randomly divided by alternate interview number into two groups as Group A (psychological intervention techniques) and group B (psychological counseling). **Conclusion:** Both psychological intervention techniques and psychological counseling were effective, as observed by KAP score at baseline and at after 4 weeks, though no difference was observed during comparison between both techniques.

**Keywords:** knowledge, attitude, practice, tobacco and alcohol addicts, psychological intervention

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## INTRODUCTION

Cigarette and alcohol use share common etiological factors and often develop concurrently. Substance use disorder such as tobacco and alcohol addiction is associated with impairment in various aspects of physical, psychological and socio-occupational functioning. In the setting of a rising prevalence of Non-Communicable Diseases (NCDs), alcohol is recognized as one of four major NCD risk factors by WHO.<sup>1</sup> Alcohol is the most commonly used depressant. Officially, Indians are still among the world's

lowest consumers of alcohol— only 21% of men and around 2% of women drink. But up to a fifth of this group amounting to about 14 million people—are dependent drinkers requiring “help”.<sup>2</sup> Smoking is an independent risk factor for chronic diseases like diabetes, cardiovascular diseases, chronic respiratory diseases, chronic kidney disease, and various types of cancers.<sup>3</sup> Drug abuse has social, physical, psychological and economic serious impacts that in addition to personal damage, it imposes heavy costs on individuals, families and society, implying a great need for health professionals to identify and treat substance abusing or addiction.<sup>4</sup> Present study was purely based on psychological interventions. The psychological interventions are based on the principle that any type of substance abuse is only due to psychological dependence of an individual toward them, and no drug can substitute the psychological dependence. This can be treated with proper psychological approach alone.

## MATERIAL AND METHODS

The present study was a prospective interventional study conducted in department of psychiatry, at Belagavi Institute Of Medical Sciences(BIMS), Belagavi, India. All the patients admitted at Sahara de-addiction center, Ganeshpur Belagavi and Sahara Recovery Centre Sangameshwar nagar Circle, Belagavi during the study period (01/05/2021 to 31/08/2021) were included as study participants. Study was approved by institutional ethical committee.

**Inclusion criteria:** The study participants gave the written informed consent to participate in the study, had addiction to tobacco and alcohol, had a moderate-to-high level of dependence (dependence score of >5) and willing to stay as inpatients in the de-addiction centers for the duration of 25–30 days to receive the assigned intervention.

### Exclusion criteria:

- With addiction only to alcohol and/or other substances (drug addicts) without addiction to tobacco in any form
- Undergoing any other psychopharmacological interventions during the study period
- With known drug hypersensitivity, epilepsy, pregnancy, lactation, any serious or unstable cardiac, renal, hepatic, hypertensive, pulmonary, endocrine, or neurological disorder as these participants were not recruited into the de-addiction centers till their condition was medically stable
- With either low or very low level of dependence (dependence score of <5) as per Fagerstrom scale.
- Not willing to stay as inpatients in the de-addiction centers for the duration of 25–30 days to receive the assigned intervention

All the study participants were interviewed by the investigator with pre-tested structural questionnaire it includes socio-demographic data and clinical history. A through clinical examination was done. The level of dependence to the various addictive agents was assessed by using Fagerstrom scale 9. The information on KAP related to tobacco and alcohol was collected from all the eligible participants before group allocation and intervention. Detailed information regarding Tobacco and Alcohol addiction (frequency and duration of consumption, quantity consumed, and symptoms of hangover experienced in alcohol) baseline level of addiction was be collected at the time of admission and at the time of Discharge. The success rate among all the intervention methods employed in the study was compared at the time of admission and at the time of discharge from the de-addiction center.

Subjects were randomly divided by alternate interview number into two groups as

1. Group A- Psychological intervention techniques (reading–writing therapy and games–narrative therapy)
2. Group B- psychological counseling (motivational intervention) alone as a control.

The effectiveness of two psychological intervention techniques (reading–writing therapy and games–narrative therapy) versus psychological counseling (motivational intervention) alone as a control were assessed.

Data was collected and compiled using Microsoft Excel, analysed using SPSS 23.0 version. Frequency, percentage, means and standard deviations (SD) was calculated for the continuous variables, while ratios and proportions were calculated for the categorical variables. Difference of proportions between qualitative variables were tested using chi-square test or Fisher exact test as applicable. P value less than 0.5 was considered as statistically significant.

## RESULTS

In present study, 30 individuals had completed follow up interview at end of 4 weeks (28 days). All were male, majority were from 20-35 years age group (50%), followed by age group 36-50 years (36.67%). Most of individuals were from lower socioeconomic class (33.33%) and middle class (26.67%). In present study subjects common type of tobacco addiction was smoking + chewing (66.67%). Majority of subjects had addiction for less than 5 years (43.33%) followed by 5-10 years addiction group (30%).

**Table 1: General characteristics**

Characteristic	No. of individuals (Percentage)
Age (in years)	
<20	1 (3.33 %)
20-35	15 (50 %)
36-50	11 (36.67 %)
51-60	3 (10 %)
Socioeconomic status (by modified Kuppuswamy scale)	
Grade I - Upper class	3 (10 %)
Grade II - Upper middle class	2 (6.67 %)
Grade III - Middle class	8 (26.67 %)
Grade IV - Lower middle class	7 (23.33 %)
Grade V - Lower class	10 (33.33 %)
Tobacco consumption	
Smoking only	8 (26.67 %)
Chewing only	2 (6.67 %)
Smoking + Chewing	20 (66.67 %)
Duration of addiction (in years)	
Less than 5	13 (43.33 %)
05-10	9 (30 %)
11-20	6 (20 %)
More than 20	2 (6.67 %)

Subjects were randomly divided by alternate interview number into two groups as Group A (psychological intervention techniques) and group B (psychological counseling). KAP (knowledge, attitude, and practice) scores were measured at baseline and after 4 weeks of intervention by a preapproved questionnaire. A statistically significant difference was observed between baseline KAP score and KAP score after 4 weeks in both groups.

**Table 2: Intragroup KAP scores comparison**

Characteristic	Group A (psychological intervention techniques)			Group B (psychological counseling)		
	Baseline	After 4 weeks	P value	Baseline	After 4 weeks	P value
Tobacco						
Knowledge score	3.9 ± 1	7.1 ± 1.2	0.022	4.1 ± 1.1	6.6 ± 1.2	0.002
Attitude score	4.1 ± 1.1	6.9 ± 0.9	0.020	4.4 ± 1	6.8 ± 1.3	0.002
Practice score	4 ± 0.9	5.9 ± 1.1	0.031	3.6 ± 0.9	5.8 ± 0.9	0.002
Total KAP score	12.1 ± 2.2	18.9 ± 3.2	0.015	11.8 ± 3.9	17.8 ± 3.9	0.002
Alcohol						0.002
Knowledge score	4.4 ± 1.1	5.9 ± 1.3	0.022	4.3 ± 1	6.1 ± 0.9	0.007
Attitude score	4.1 ± 0.9	6.5 ± 0.7	0.020	4.9 ± 1.1	6.3 ± 1.3	0.005
Practice score	3.9 ± 1.2	6.1 ± 1.2	0.014	4 ± 1.1	5.9 ± 0.9	0.016
Total KAP score	12.5 ± 2.3	18.5 ± 3.9	0.019	13.4 ± 3.9	17.1 ± 3.9	0.001
Tobacco + alcohol KAP score	25.1 ± 3.4	37.1 ± 5.4	0.001	25.4 ± 5.2	35.4 ± 5.2	0.001

Difference in KAP scores of Group A (psychological intervention techniques) and group B (psychological counseling) was not statistically significant ( $p > 0.05$ ).

**Table 2: KAP scores among two groups**

Characteristic	Group A (psychological intervention techniques)	Group B (psychological counseling)	P value
Tobacco			
Knowledge score	7.1 ± 1.2	6.6 ± 1.2	>0.05
Attitude score	6.9 ± 0.9	6.8 ± 1.3	>0.05
Practice score	5.9 ± 1.1	5.8 ± 0.9	>0.05
Total KAP score	18.9 ± 3.2	17.8 ± 3.9	>0.05
Alcohol			
Knowledge score	5.9 ± 1.3	6.1 ± 0.9	>0.05
Attitude score	6.5 ± 0.7	6.3 ± 1.3	>0.05
Practice score	6.1 ± 1.2	5.9 ± 0.9	>0.05
Total KAP score	18.5 ± 3.9	17.1 ± 3.9	>0.05
Tobacco + alcohol KAP score	37.1 ± 5.4	35.4 ± 5.2	>0.05

(p value less than 0.05 was considered significant.)

## DISCUSSION

Tobacco and alcohol, often referred to as “gateway drugs,” are among the first substances consumed by adolescents. This is likely influenced by their ready availability along with other sociocultural (e.g., peer influences, acculturation) and biological factors (e.g., family history of substance use disorders).<sup>5</sup> There has been a steady increase in the per capita consumption of alcohol in most parts of the world and it is projected to rise in the coming years, associated with rise in alcohol-related disorders. Among individuals attempting to abstain from cigarettes, alcohol consumption has been frequently cited as a precipitant of smoking relapse. As a result, the most recent guidelines for smoking cessation treatment advocate that smokers attempting to quit also make an effort to avoid drinking.<sup>7</sup> Knowledge is not the only factor contributing to tobacco use, and most people understand the negative health effects of tobacco use, but they continue to smoke. According to cognitive viewpoint, expectancies about the perceived benefits of using alcohol or other drugs and smoking cigarettes directly influence the decision to use these substance. Cognitivism is a very important domain in shaping behaviours. A study conducted in Gujarat; India has found that being knowledgeable about effects of tobacco on health can reduce the risk to continue the smoking behaviour by 30-40 %.<sup>8</sup> Due to heterogeneity in behavior, smokers, as compared to nonsmokers, are less likely to acknowledge the consequences of smoking. Earlier smoking cessation has more significant health benefits and can be observed even decades after quitting of smoking.<sup>3</sup> Effectiveness of motivational interviewing has been most widely studied in alcohol abusing and dependent populations: At least 32 trials show that MI effectively improves treatment adherence and drinking outcomes and the results from these show a small to medium effect size with variability across settings and providers.<sup>9</sup> Pednekar MS *et al.*,<sup>11</sup> studied the association between alcohol, alcohol and tobacco, and mortality in Mumbai, India, revealed that compared to those who never drank alcohol, alcohol drinkers had 1.22 times higher risk of mortality, with the highest risk observed for liver disease. Alcohol drinkers had increased risk of mortality for tuberculosis, cerebrovascular disease, and liver disease. Synergistic effect of tobacco and alcohol showed a higher mortality as compared to individual risk.<sup>10</sup> Silvia FS<sup>11</sup> noted that, prevalence of smoking and drug abuse was relatively low among Cairo University medical students who had generally correct knowledge about the hazards of these practices. Their perceptions about their future role as doctors towards smoking control were promising. They showed positive supportive attitudes towards tobacco banning legislations and were enthusiastic to receive more training that would help them in their tasks as physicians.

In study by Rahul Ganavadiya *et al.*,<sup>12</sup> the mean knowledge score was significantly increased in the post intervention follow-ups compared to baseline values. The attitude and practice score related to tobacco and alcohol habits was most favorable in the first follow-up followed by second follow-up. The least favorable attitude and practice score was observed at baseline. The overall KAP score for tobacco and alcohol increased in the post intervention periods compared to baseline values. Similar results were noted in present study. In addition to vulnerability, a good understanding of the effects of substances and addictive behaviors on the body and mind, a good understanding of available interventions, the importance of family support and follow-up support are all important in restitution and recovery in addiction, which can be best conceptualized as a complex hydra-headed problem.<sup>13</sup> Counseling and other behavior treatment are critical components of substance use disorder treatment: The treatment which focuses on motivation, relapse, life style change and problem solving ability yields better outcome results. Still pharmacological intervention when combined with psychosocial intervention has proved to be more efficacious. Complete recovery involves changes in five major areas of life: physical well-being, work routine, healthy relationships, personality changes, and meaningful leisure activities.

## CONCLUSION

Both psychological intervention techniques and psychological counseling were effective, as observed by KAP score at baseline and at after 4 weeks, though no difference was observed during comparison between both techniques. Further long term studies with large number of participants are necessary for confirmation of present study observations.

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