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Effectiveness of multi-modal interventions on psychosocial problems, alcohol dependence and quality of life among alcoholics

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*Abstract :*Excessive alcohol consumption is a significant risk factor for several serious health problems, including cardiovascular disease, cancer and psychiatric disorders. In a systematic review for the 2016 Global Burden of Disease Study,alcohol is identified as a major risk factor for global burden of disease and causes substantial health loss [Griswold MG, Fullman N, Hawley C, et al, 2018]. Excessive alcohol use can have a negative impact not only on the individual consumer but also on the community at large. Excessive alcohol consumption has been linked to an increase in violent crime. Family units are frequently impacted when a family member consumes excessive amounts of alcohol (Butcher, Mineka& Hooley, 2005). Excessive alcohol use is closely associated to family difficulties such as marital breakdown, domestic violence, and spousal abuse (Skrtic, Karlovic, Kruljac, 2008; Ogborne, 2000).Objectives: To assess the effectiveness of multi modal interventions on alcohol dependence, psycho-social problems and Quality of life among alcoholics. Design: quasi experimental design where Non Equivalent control group design was adopted for the study settings: Spandana Hospitals Pvt Ltd Participants: 10 alcoholics admitted in selected de-addiction centre who fulfil the inclusion criteria were selected by purposive sampling techniques. Methods: After obtaining the pretest data, during the first week, the experimental group received the Multimodal interventions (educational intervention, yoga and family guidance), whereas the control group received routine care. Reinforcement of the intervention was given on alternative weeks. The data were collected and analyzed by using descriptive and inferential statistics. Result: In experimental group, non parametric Repeated measures Friedman test analysis shows that, mean overall psycho-social problems score is statistically significant different between pre-test and posttest-II($\chi 2$ = 130.12 $P \leq 0.001$), mean overall severity alcohol dependence score is statistically significant different between pre-test and posttest-II (F = 11.00 $P \leq 0.01$) and In mean overall QOL score is statistically significant different between pre-test and posttest-II(F = 9.45 $P \leq 0.001$). Therefore, we can conclude that a multi modal intervention decrease psycho-social problems, severity alcohol dependence and improves significantly QOL score among alcoholics. This showed that that multi modal intervention was effective among alcoholics admitted in selected de-addiction center

Key words- Effectiveness, multi modal intervention psycho-social problems, alcohol dependence, Quality of life, alcoholics

I. INTRODUCTION

Alcoholism is a recurrent chronic condition characterized by obsessive drinking, lack of control over drinking, and a negative emotional state when not drinking. The primary health issue caused by excessive alcohol use is intestinal permeability and organ damage. Chronic and excessive alcohol drinking, for example, has a deleterious impact on the gut microbiota and promotes intestinal leakage with higher levels of endotoxins, which can promote progressive liver disease, including inflammation, fibrosis, cirrhosis, and finally hepatocellular cancer. **(Schnabl& Brenner, 2014)** Extended alcohol intake can be harmful to one's mental health. Alcohol misuse and mood problems, notably sadness and anxiety, have been linked in studies. The reciprocal implications of this imply that alcohol, on the one hand, may be used to self-medicate against many mood disorders, but on the

other hand, when taken excessively, it can aggravate mood disorders.**(Prince, Akincigil, Hoover, Walkup, Bilder, Crystal, 2009, Agabio, Marras, Gessa, &Carpiniello 2007).**

Several researches have found that people with Alcohol Used Disorder (AUD) had lower Health Related Quality of Life (HRQoL).Yet, while HRQoL is thought to be important in Treatment As Usual (TAU) treatment; it has received little attention, and primarily with generic, non-specific TAU measures. These scales did not contain patients' thoughts and impressions since they were created by physicians or researchers, contrary to Food and Drug Administration regulations that encourage the use of patient-reported outcome (PRO) measures.

When a patient quits consuming alcohol during addiction treatment, they experience withdrawal symptoms. These symptoms usually go away in a week to ten days, although some, such as anxiety, sleeplessness, and moderate autonomic dysfunction, can remain for up to six months. With the removal of the patient's addiction, the patient may be able to use alcohol in the future. This Ashtang yoga is fantastically implemented in the aforementioned situations of alcoholic patients to enhance their mental state, decrease anxiety, agitation, sleeplessness, memory loss, increase bodily strength, mental strength, and so many other maladies that arise as a result of alcohol addiction and withdrawal. It also strengthens the patient's will to decrease or eliminate the likelihood of relapse from alcohol.

Quality of life encompasses a wide variety of situations, including physical health, psychological and social well-being, environmental development, employment, money, and other factors, but it is characterized in general by a person's health, well-being, and happiness. Yoga is essential for leading a healthy lifestyle and increasing one's quality of life. Yoga activities result in the release of hormones that improve mood. These hormones assist to alleviate stress and increase emotions of well-being. **(Virginia O'Connor 2015)**

OBJECTIVES: A Pilot Study was conducted to assess the effectiveness of multi modal interventions on psycho-social problems alcohol dependence, and Quality of life among alcoholics.

MATERIAL AND METHODOLOGY

The research design used for this study was quasi experimental design in that Non Equivalent control group design was adopted among 10 alcoholics. Purposive sampling techniques used to select the sample for both the group.

DESCRIPTION OF THE DATA COLLECTION INSTRUMENT

The most trustworthy evidence in evaluating the outcome of research investigation is through developing the appropriate tool to examine the study variables. An extensive research review was carried out to identify the availability of standardized tool for the study, in the books, journals and internet. The researcher got few standardized instruments to collect data regarding assessing Alcoholic dependence (Severity of alcohol dependence Quotient (SADQ) and QOL(Quality Of Life Brief Instrument (WHOQOL-BREF)and also developed instruments to collect data regarding Psychosocial Problems in consultation with research experts from nursing, and medical profession. The tools were first developed in English and later translated to Kannada for data collection process. The final tool used for collection of data.

Description of the Tool

No	Tool	items
I	Socio-Demographic Variable Proforma	10
II	Self-administered Questionnaire to assess psycho-social problems of alcoholics	25
III	Severity of alcohol dependence Quotient (**SADQ)**(Standardized Tool)	20
IV	WHO Quality of Life Assessment Scale (Standardized Tool)	26

DATA COLLECTION PROCEDURE

A formal permission was obtained and the pilot study was conducted among the alcoholics in

Spandana Hospitals Pvt Ltd.The purpose of the study was explained and informed consent was obtained from each sample.

10 samples were selected through Purposive sampling technique and assigned to experimental group (5 samples) and control group (5 samples). The aim of the study was explained to the study participants and whole hearted risk free participation was requested. informed Consent was obtained from study participants. Confidentiality of their response was ensured. The investigator collected the pretest data and the collection process took about 30 minutes.

After obtaining the pretest data, during the first week, the experimental group received the Multimodal interventions (educational intervention, yoga and family guidance) which took about 50 to 60 minutes for the next 5 consecutive weeks, whereas the control group received routine care in the de addiction centre.. Reinforcement of the intervention was given on alternative weeks. The data were collected and analyzed by using descriptive and inferential statistics.

DESCRIPTION OF THE INTERVENTION

The interventions used in the study were multi modal intervention namely educational intervention, yoga and family guidance which was designed to bring the change among the alcoholics addiction was administered by the period of 3 months

RESULTS

A p-value of ≤0.05 was considered statistically significant, and two-tailed tests were used for testing significance Statistical analysis was carried out using the Statistical Package for Social Sciences (SPSS, version 22) and STATA (version 10) and Epi info (Version 3.5.1) statistical software's. Quantitative differences between Pretest, posttest1 and posttest II were assessed using repeated measures analysis of variance F-test. Posthoc multiple comparisons are conducted using Bonferroni t-test. Effectiveness of the study was given in mean with 95% confidence interval ands percentage with 95% confidence interval.

Table 1: Frequency and distribution of control and experimental group of alcoholics according to their demographic variables

Demographic variables		Group				Chi quare test
		Experimental(n=5)		Control(n=5)		
		n	%	n	%	
Age of the respondents in years	≤ 25 years	1	20.00%	0	0.00%	χ^2=2.61 p=0.46(NS)
	26 to 35 years	1	20.00%	2	40.00%	
	36 to 45 years	0	0.00%	1	20.00%	
	46 to 55 years	3	60.00%	2	40.00%	
Marital status	Single	0	0.00%	0	0.00%	χ^2=0.48 p=0.78(NS)
	Married	5	100.00%	5	100.00%	
	Separated/divorced/widow	0	0.00%	0	0.00%	
Place of living	Urban	4	80.00%	3	60.00%	χ^2=2.13 p=0.34(NS)
	Rural	0	0.00%	1	20.00%	
	Semi-Urban	1	20.00%	1	20.00%	
Religion	Hindu	5	100.00%	5	100.00%	χ^2=0.37 p=0.83(NS)
	Muslims	0	0.00%	0	0.00%	
	Christian	0	0.00%	0	0.00%	
Education	No formal education	0	0.00%	0	0.00%	χ^2=2.07 p=0.55(NS)
	Primary	3	60.00%	3	60.00%	

	Secondary	1	20.00%	2	40.00%	
	Higher secondary	1	20.00%	0	0.00%	
Occupation	Unemployed	0	0.00%	0	0.00%	χ^2=3.76 p=0.29(NS)
	Professional/technical	0	0.00%	1	20.00%	
	Agriculture	1	20.00%	3	60.00%	
	Skilled/unskilled manual	4	80.00%	1	20.00%	
Frequency of watching television	Not at all	0	0.00%	0	0.00%	χ^2=4.57 p=0.10(NS)
	Less than once a week	0	0.00%	0	0.00%	
	At least once a week	3	60.00%	5	100.00%	
	Almost every day	2	40.00%	0	0.00%	
Annual Income per month	<Rs.2000	0	0.00%	0	0.00%	χ^2=1.64 p=0.20(NS)
	Rs.2001-4000	0	0.00%	0	0.00%	
	Rs.4001-6000	0	0.00%	1	20.00%	
	>Rs.6000	5	100.00%	4	80.00%	
Food habit	Vegetarian	5	100.00%	0	0.00%	χ^2=0.24 p=0.63(NS)
	Non vegetarian	0	0.00%	5	100.00%	
Duration of alcoholism	<2 years	0	0.00%	0	0.00%	χ^2=2.58 p=0.46NS)
	3-4 years	0	0.00%	1	20.00%	
	5-6 years	1	20.00%	3	60.00%	
	>6 years	4	80.00%	1	20.00%	

p>0.05 not significant NS=not significant

Above table shows the demographic information of alcoholics those who are participated for the study on Similarity of demographic information distribution between experiment and control group was assessed using chi square test**.**

Table2: comparison between experimental and control group psycho-social problems score

	Group				Mean difference	Mann whitney test
	Experimental(n=5)		Control(n=5)			
	Mean	SD	Mean	SD		
Pretest	75.20	3.11	76.40	2.61	-1.20	z=0.65 p=0.53(NS)
Posttest-1	70.40	2.70	76.20	1.30	-5.80	**z=2.44 p=0.02*(S)**
Posttest -2	67.80	1.64	75.80	1.10	-8.00	**z=2.66 p=0.01**(S)**

In pretest there is no significant difference between experimental and control group. In posttest-1 there is a significant difference between experimental and control group and also in posttest-2 there is a significant difference between experimental and control group. Statistical significant difference between experimental and control group was assessed using non parametric mann Whitney test.

Table 3:Comparison of mean psycho-social problems score During Pretest, Posttest-I, Posttest-II and Posttest-III among experimental and control group

	Pre-test		*Posttest-I*		*Posttest-II*		Mean difference	Repeated measures Friedman test
	Mean	*SD*	*Mean*	*SD*	*Mean*	*SD*		
Experimental	75.20	3.11	70.40	2.70	67.80	1.64	**7.40**	**χ^2=9.57 p=0.01*** (S)**
Control	76.40	2.61	76.20	1.30	75.80	1.10	**0.60**	**χ^2=3.64 p=0.16 (NS)**

In experimental group, non parametric Repeated measures Friedman test analysis shows that, mean overall psycho-social problems score is statistically significant different between pre-test and posttest-II(χ^2 = 130.12 P ≤ 0.001).Therefore, we can conclude that a multi modal interventions reduces significantly psycho-social problems score among alcoholics.

Similarly, in control group, non parametric Repeated measures Friedman test analysis shows that, mean overall psycho-social problems score is not statistically significant different between pre-test and posttest-II(χ^2 = 3.64, P ≥ 0.05). Therefore, we can conclude that a routine care not reducing psycho-social problems score significantly among alcoholics.

Table 4: comparison between experimental and control group severity alcohol dependence score

	Group				Mean difference	Mann Whitney test
	Experimental(n=5)		Control(n=5)			
	Mean	SD	Mean	SD		
Pretest	27.00	4.47	25.40	5.37	-1.60	z=1.78 p=0.07(NS)
Posttest-1	21.00	2.24	24.80	4.02	-3.80	**z=2.17 p=0.05*(S)**
Posttest -2	19.00	1.58	25.80	4.09	-6.80	**z=2.64 p=0.01**(S)**

In pretest there is no significant difference between experimental and control group. In posttest-1 there is a significant difference between experimental and control group and in posttest-2 there is a significant difference between experimental and control group. Statistical significant difference between experimental and control group was assessed using non parametric Mann Whitney test.

Table 5:Comparison of mean severity alcohol dependence score During Pretest, Posttest-I and Posttest-II among experimental and control group

	Pre-test		*Posttest-I*		*Posttest-II*		Mean difference	Repeated measures Friedman test
	Mean	*SD*	*Mean*	*SD*	*Mean*	*SD*		
Experimental	27.00	4.47	21.00	2.24	19.00	1.58	**8.00**	**χ^2=11.00 p=0.01** (S)**
Control	25.40	5.37	24.80	4.02	25.80	4.09	**0.45**	**χ^2=1.02 p=0.60 (NS)**

In experimental group, Repeated measures F-test analysis shows that, mean overall severity alcohol dependence score is statistically significant different between pre-test and posttest-II ($F = 11.00\ P \leq 0.01$). Therefore, we can conclude that a multi modal interventions reduces significantly severity alcohol dependence score among alcoholics.

Similarly, in control group, Repeated measures F-test analysis shows that, mean overall severity alcohol dependence score is not statistically significant different between pre-test and posttest-II ($F = 1.02, P \geq 0.05$). Therefore, we can conclude that a routine care not reducing severity alcohol dependence score significantly among alcoholics.

Table6: comparison between experimental and control group Quality of Life score

	Group				Mean difference	Mann Whitney test
	Experimental(n=5)		Control(n=5)			
	Mean	SD	Mean	SD		
Pretest	45.22	1.12	45.43	2.16	-0.21	z=0.97 p=0.33(NS)
Posttest-1	51.71	5.94	45.71	1.13	6.00	**z=2.44 p=0.05*(S)**
Posttest -2	54.31	1.54	45.83	2.27	8.48	**z=2.65 p=0.01**(S)**

In pretest there is no significant difference between experimental and control group. In posttest-1 there is a significant difference between experimental and control group and in posttest-2 there is a significant difference between experimental and control group. Statistical significant difference between experimental and control group was assessed using non parametric Mann Whitney test.

Table 7: Comparison of mean Quality of life score During Pretest, Posttest-I and Posttest-II among experimental and control group

	Pre-test		***Posttest-I***		***Posttest-II***		**Mean difference**	**Repeated measures Friedman test**
	Mean	***SD***	***Mean***	***SD***	***Mean***	***SD***		
Experimental	45.2	1.12	51.71	5.94	54.31	1.54	**9.09**	**F=9.45 p=0.01** (S)**
Control	45.43	2.16	45.71	1.13	45.83	2.27	**0.40**	**F=1.03 p=0.34 (NS)**

In experimental group, Repeated measures F-test analysis shows that, mean overall QOL score is statistically significant different between pre-test and posttest-II($F = 9.45\ P \leq 0.001$). Therefore, we can conclude that a multi modal interventions improves significantly QOL score among alcoholics. Similarly, in control group, repeated measures F-test analysis shows that, mean overall QOL score is not statistically significant different between pre-test and posttest-II($F = 1.03, P \geq 0.05$). Therefore, we can conclude that a routine care not improving QOL score significantly among alcoholic.

CONCLUSION: There is a significant effectiveness of multi modal interventions between pre and post test score on psycho-social problems, alcohol dependence and Quality of life among alcoholics in experimental group than control group.

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