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A quasi experimental study to assess the effectiveness of cognitive behavior model based psychoeducation with Exercise intervention on quality of life of people with Alcohol use disorder in selected de- addiction centers of Ambala, Haryana

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Abstract
Introduction: Alcohol use disorder is organized into three categories: mild, moderate and severe. Each category has various symptoms and can cause harmful side effects. If left untreated, any type of alcohol abuse can spiral out of control. Alcoholism can lead to a wide range of impacts in professional, personal matters, relationships and overall health. Serious side effects of consistent alcohol abuse can worsen and produce damaging complications.
Aim: To assess the effectiveness of Cognitive Behavior Model based Psychoeducation with exercise intervention on quality of life of People with alcohol use disorder.
Method: The research includes quantitative research approach and research design was non equivalent control group pre-test post-test design. The study was conducted in two de- addiction centers (Nayi Kiran de- addiction centre and Sri Krishna Hospital, Ambala).
Sample and sampling technique: A total of 50 People with alcohol use disorder admitted in de-addiction centers were selected by convenience sampling technique and recruited into experimental group (n=25) and comparison group (n=25).
Tools and techniques: The tools used for data collection were selected sample characteristics and WHO QOL -BREF questionnaire (26 items) by self report interview technique. Cognitive Behavior Model based Psychoeducation (8 sessions) with exercise intervention (20 sessions) were given to the experimental group and no intervention was given to the comparison group.
Result: Before the administration of cognitive behavior model based psychoeducation with exercise intervention maximum of the People with alcohol use disorder in experimental group (92%) were having poor quality of life and in comparison group (100%) of People with alcohol use disorder were having poor quality of life and after administration of the intervention in post-test in experimental group more than half of the People with alcohol use disorder (64%) are having fair quality of life and in comparison group maximum of People with alcohol use disorder (96%) were having poor quality of life. Study also revealed that there was a significant difference between experimental and comparison group after implementation of Cognitive behavior model based psychoeducation with exercise intervention (t=14.22, p=0.00**).
Conclusion: Findings of the study concluded that cognitive behavior model based psychoeducation with exercise intervention was effective in improving the quality of life of People with alcohol use disorder in de- addiction centers.
Alcoholism is the most severe form of alcohol abuse and involves the inability to manage drinking habits. It is also commonly known as alcohol use disorder. Alcoholism is one of the major health and social problems all over the world. The problem of excessive alcohol consumption is a major cause of public health concern both in urban and rural areas. Today it is the third leading psychiatric problem in the world.

1. Introduction
Alcohol use disorder is organized into three categories: mild, moderate and severe. Each category has various symptoms and can cause harmful side effects. If left untreated, any type of alcohol abuse can spiral out of control. Individuals struggling with alcoholism often feel

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as though they cannot function normally without alcohol. (Alcohol abuse: Signs, Effects, Interactions and Addiction Treatment).

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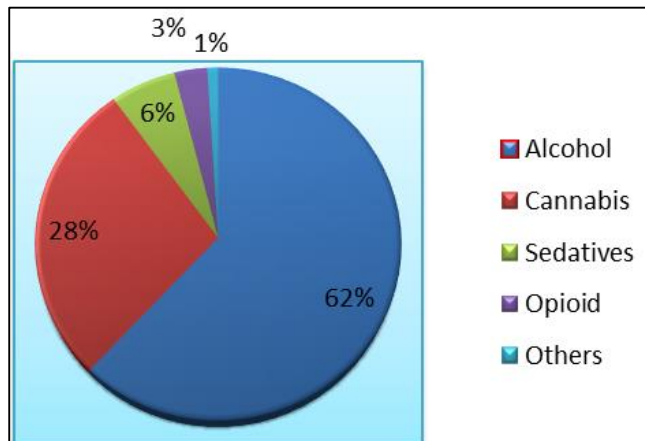

Fig 1: Pie chart showing the abuse of different substances and their %age worldwide.

The per capita alcohol consumption in India increased two folds between 2005 and 2016, according to the Global status report on alcohol and health released by the World Health Organization 2018. (Alcohol consumption in India doubled in 11 years: WHO report).

About 6.7% of adults who had Alcohol Use Disorder in the past year received treatment. This includes 7.4% of males and 5.4% of females with AUD. According to the National Survey on Drug Use and Health (2015). It is estimated that 623,000 adolescents ages 12–17 (2.5 percent of this age group) had Alcohol Use Disorder. This number includes 298,000 males (2.3 percent of males in this age group7) and 325,000 females (2.7 percent of females in this age group). {Global status report on alcohol and health WHO Library Cataloguing-in-Publication Data. (2011)}.

Research evidences suggests that regular exercise positively affects integral functions such as brain health (the ability for the brain to generate new cells and maintain existing cells)

and cognition (e.g., ability to think quickly, pay attention, remember things).It also suggests that aerobic activity has been associated with improved quality of life. (National Health Survey Users Guide).

There are less number of the studies have been conducted in Indian setting focusing on the effectiveness of cognitive behavior model based psycho education with exercise intervention, therefore the researcher decided to conduct the study on cognitive behavior model based psycho education with exercise intervention among People with alcohol use disorder and explore the effectiveness of intervention on quality of life among People with alcohol use disorder. Thus the researcher has decided to conduct the study on effectiveness of cognitive behavior model based psycho education with exercise intervention among People with alcohol use disorder.

## 2. Methods and Materials

2.1 Research Design: Since this study aims at assess the effectiveness of Cognitive behaviour model based psychoeducation and exercise intervention on quality of life of People with alcohol use disorder the research approach preferred for this study was Quantitative Approach and under that the design used was Quasi experimental non equivalent control group pre-test post-test design.

2.2 Setting: The study was conducted at two de- addiction centers of Ambala, Haryana. (Nayi Kiran De- addiction center Ambala, Haryana and Sri Krishna Hospital, Ambala, Haryana.)

2.3 Population: In the present study:
- **Population:** People with alcohol use disorder.
- **Target population:** People with alcohol use disorder admitted in De-addiction centre, Haryana.
- **Accessible population:** People with alcohol use disorder admitted in selected De-addiction centre, Ambala, Haryana.

2.4 Sample and sampling technique: In the present study setting was selected conveniently and the sample was selected through Purposive sampling technique. Power analysis was carried out by Cohen's d formula d= $\mu_1 - \mu_2/\sigma$ based on the mean score of previous studies where calculated sample size was 25 for each group i.e 50.
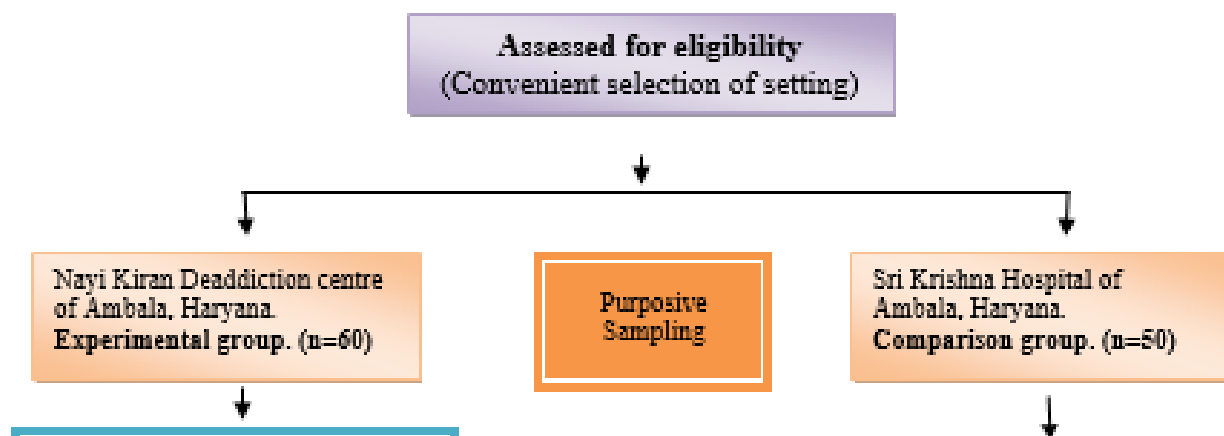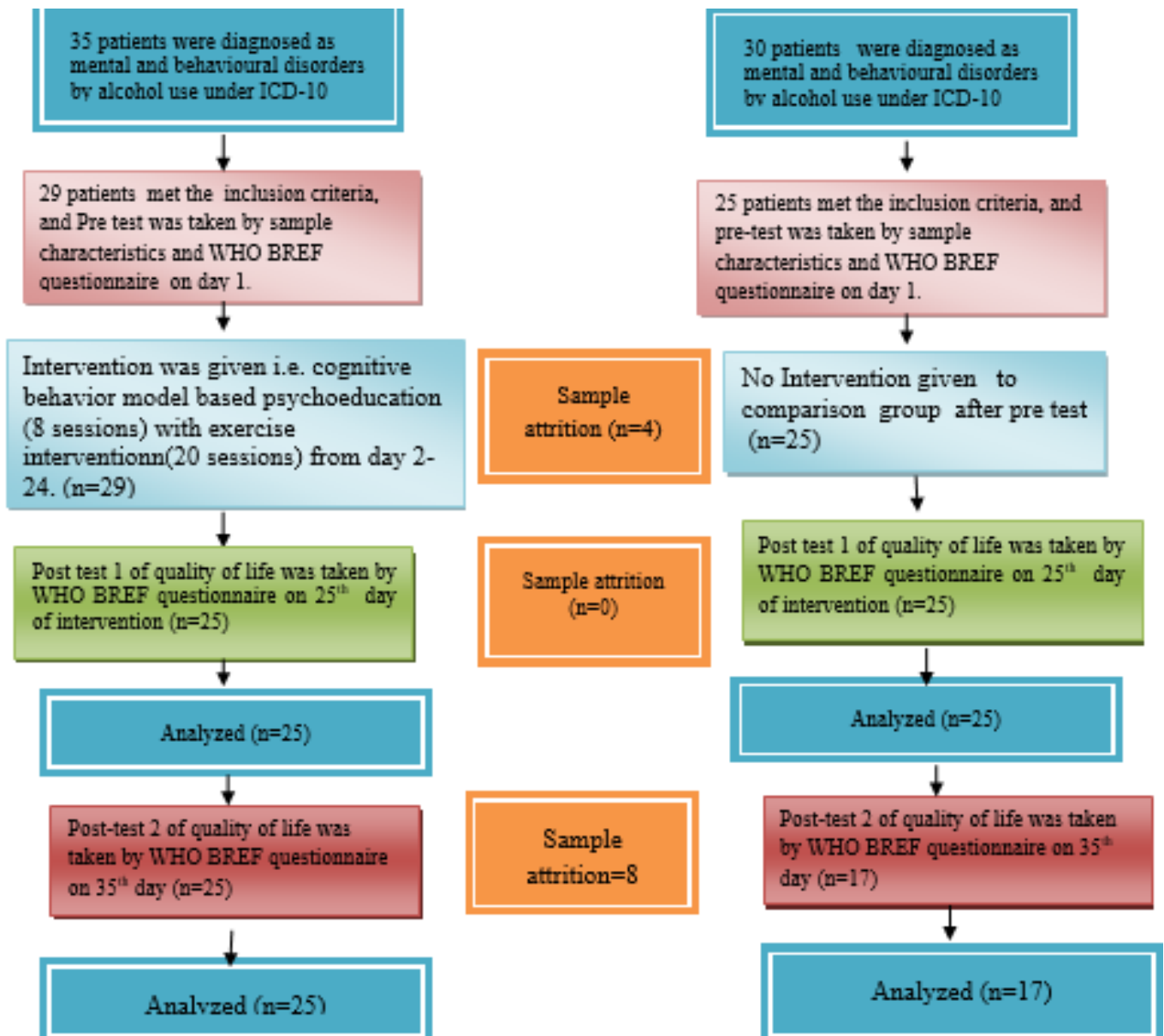
Fig 2: Consort Diagram

2.5 Data Collection Tools and Techniques

Based on the objectives and conceptual framework of the study, the tool developed was divided into the following section:
1. Sample Characteristics Performa.
2. WHO QOL- BREF questionnaire.

The WHOQOL-BREF (Field Trial Version) was incorporated in the study after taking prior permission from the tool developer. Content validity of the tool was established by 13 experts in the field of psychiatric nursing, psychiatrists and psychologists. Experts were requested to judge the item for their clarity, relevance, meaningfulness and content.

2.6 Intervention Guidelines

Before developing the intervention the researcher undergone competency training program on CBM based psychoeducation with exercise intervention under the guidance of expert psychologist at registered psychological institution after the training based on the research evidence and experience gained under the competency program along

with the opinion of trainer. The intervention guidelines were prepared and decided to be administered for 28 session which including 8 sessions of CBM based psychoeducation and 20 sessions of exercise intervention. In one week 2 sessions of exercise intervention and 5 sessions of cognitive behaviour model based psychoeducation and each session of 60minutes. The intervention guidelines were also validated by the same experts after getting validation from the trainer.

2.7 Ethical Considerations

Ethical permission was obtained before conducting the study and it is blinded for the peer review. Research participants were enrolled in the study after written informed consent and they were assured about the confidentiality of their responses.

3. Result
3.1Sample Characteristics

Chi square was computed to determine the homogeneity of experimental and comparison group in terms of sample characteristics before administration of cognitive behaviour model based psychoeducation with exercise intervention.

The findings showed that both groups were homogenous/similar with respect to Age in years (χ^2 =3.70, p=0.44), Qualification (χ^2=3.50, p=0.47), Marital status (χ^2= 1.92, p=0.38), No. of children (χ^2=3.66, p=0.30), Religion (χ^2=8.47, p=0.37), Duration of consumption of alcohol (χ^2=2.65, p= 0.44), Occupation (χ^2=2.93, p=0.40), Family income per month (χ^2=5.52, p=0.35), Socioeconomic status (χ^2=1.60, p=0.65), Any medical illness (χ^2=1.49, p=0.22), Consuming any drug or medication (χ^2= 0.16, p=0.68), Duration of stay in deaddiction centre (χ^2=3.14, p=0.67),

History of any legal case (χ^2=0.80, p=0.37), Any previous history of relapse (χ^2=0,43, p=0.50). Therefore it can be inferred that the patients in experimental and comparison group were homogenous and comparable in regards of sample characteristics before administration of Cognitive behaviour model, based psychoeducation with exercise intervention.

3.2 Pre- test and Post – test Comparison

Table 1: Frequency, Percentage Distribution and Chi square showing comparison of experimental and comparison group in terms of quality of life before and after administration of cognitive behavior model based psychoeducation with exercise intervention.

N= 50

Level of quality of life	Actual range of score	Experimental group n = 25 f (%) Pre-test	Comparison group n = 25 f (%) Pre-test	Experimental group n = 25 f (%) Post-test	Comparison group n = 25 f(%) Post-test
Poor	26-50	23(92)	25(100)	2(8)	24(96)
Fair	51-100	2(8)	-	16(64)	1(4)
Good	101-130	-	-	7(28)	-

Minimum score - 26   Maximum score - 130

The data presented in Table -1 depicts that before the administration of cognitive behavior model based psychoeducation and exercise intervention in the experimental group maximum of the People with alcohol use disorder (92%) were having poor quality of life and in comparison group all the People with alcohol use disorder (100%) were having poor quality of life. But after administration of Cognitive Behavior Model based psychoeducation with Exercise intervention in the experimental group more than half of the People with alcohol use disorder (64%) are having fair quality of life and in comparison group maximum of the People with alcohol use disorder (96%) are having poor quality of life.

3.2 t- test
The data presented in Table-2 shows that in the

experimental group, the mean posttest quality of life score was 94.46 and 61.56 in comparison group with a mean difference of 33.40. The independent 't' test was applied and the computed 't' value obtained (14.22) was found to be statistically significant at 0.05 level which showed that there was a significant difference in mean posttest quality of life score of People with alcohol use disorder in experimental and comparison group. This also reveals that the mean difference in posttest quality of life scores between experimental and comparison group was a true difference and not by chance. Hence, the null hypothesis (H_{01}) was rejected and research hypothesis (H_1) was accepted. It was concluded that the cognitive behavior model based psychoeducation with exercise intervention was an effective intervention in increasing the quality of life of People with alcohol use disorder.

Table 2: Mean, Mean Difference, Standard Deviation of Difference, Standard Error of Mean Difference and 't' value of WHOQOL- BREF and quality of life among People with alcohol use disorder after administration of CBM based psychoeducation with exercise intervention.

N= 50

Variable	Group	Mean ± S.D.	M_D	SE_{MD}	't' Value	df	P Value
Quality of life	Experimental group(n=25) Comparison group(n=25)	94.96 ±.10.35 61.56± 5.53	33.40	2.348	14.22	48	0.00**

* *-Highly significant (p < 0.01)

3.3 Anova

Table 3: Repeated Measure Anova showing the significant difference within the group in terms of quality of life in experimental and comparison group.

N= 42

Group	Test	Mean.	F value	p value
Experimental group (n = 25)	Pre-test	59.92	0.20	0.00**
	Post-test-1	94.96		
	Post-test -2	97.36		
Comparison group (n = 17)	Pre-test	55.18	0.563	0.10 NS
	Post-test-1	61.88		
	Post-test -2	63.00		

* *-Highly significant (p < 0.01)   t (48) =2.00

Table -3 depicts repeated measure ANOVA showing the significant difference within groups in terms of quality of life. In experimental group there was a significant difference in the mean score in Pretest (59.92), post-test-1 (94.96), Post-test -2 (97.36) and computed F value was 0.20 with p= 0.00** which was statistically significant at 0.05 level of significance. It shows that It was a true difference and not by chance, whereas in comparison group the mean sore of pre-test (55.18), post-test-1 (61.88), Post-test-2 (63.00) has not any significant difference as computed F value was 0.56with p=0.10 which was not significant at 0.05 level of significance.

Table 4: Post hoc showing the significant mean difference in terms of quality of life in experimental and comparison group.

N= 42

Groups	Category	MD	SE	p value
Experimental Group (n=25)	Pretest vs post-test 1	-1.120	0.105	0.00**
	Pretest vs post-test 2	-1.320	0.095	0.00**
	Post-test 1 vs post-test 2	0.200	0.129	0.403[NS]
Experimental Group (n=25)	Pretest vs post-test 1	-1.120	0.105	0.00**
	Pretest vs post-test 2	-1.320	0.095	0.00**
	Post-test 1 vs post-test 2	0.200	0.129	0.403[NS]

[NS] -Not significant ($p > 0.05$)**- Highly significant ($p < 0.01$)

Table 4 depicts that post hoc test (LSD) showing the mean difference within groups in terms of quality of life in experimental and comparison group. In experimental group there was statistically significant difference between pre-test- post-test-1 (p= 0.00**), pre-test post-test-2 (p= 0.00**), post-test-1- post-test-2 (p= 0.40) which concludes that at the time of pre-test the People with alcohol use disorder were having minimum quality of life than post-test-1 and post-test-2.

3.4 Association
This revealed that the quality of life score was independent of selected sample characteristics except No. of children as People with alcohol use disorder with two children having high mean posttest quality of life score (57.45) as compared to that of two children (56.14) and that of one child (56.10) and Any previous history of relapse as People with alcohol use disorder not having previous history of relapse were having high mean posttest quality of life score (60.58) and that of People with alcohol use disorder having previous history of relapse (57.42).
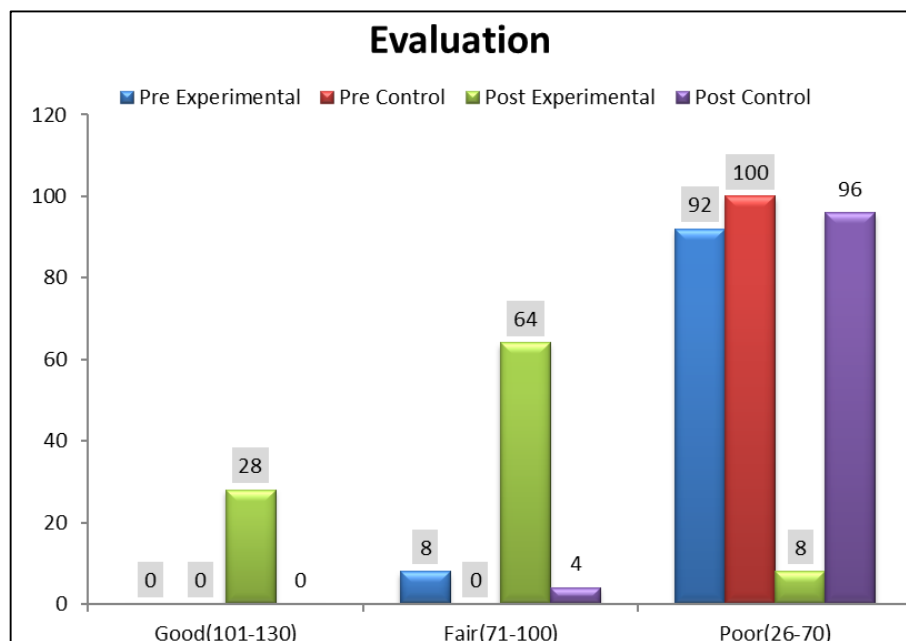

Fig 3: Bar diagram showing comparison of frequency percentage of experimental and comparison group in terms of quality of life before and after administration of cognitive behavior model based psychoeducation with exercise intervention

Fig 4: Bar diagram showing comparison of mean and standard deviation of experimental and comparison group in terms of quality of life before and after administration of cognitive behavior model based psychoeducation with exercise intervention.
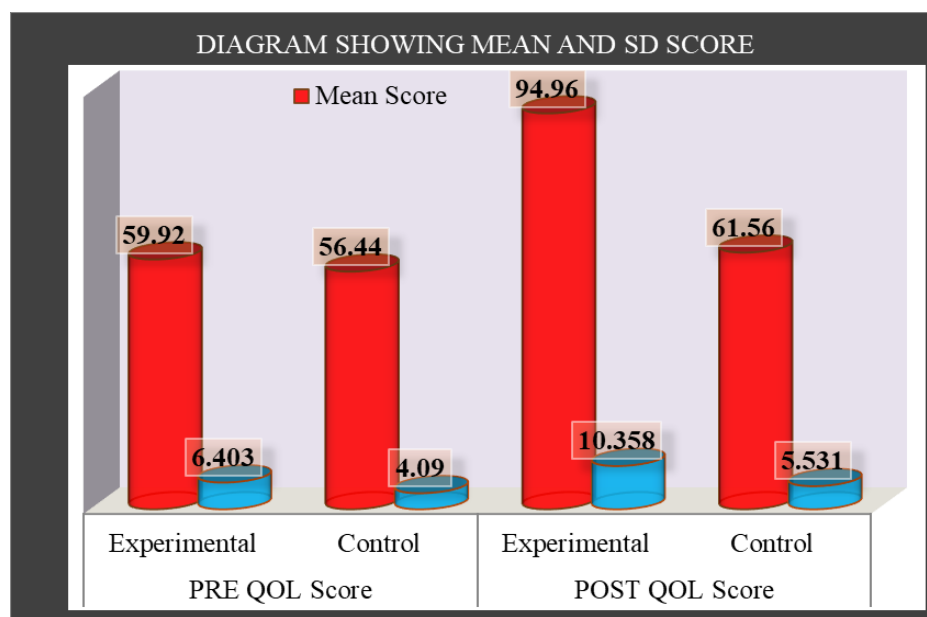
4. Conclusion
The findings of the study results that most of the People with alcohol use disorder had poor quality of life and Cognitive behavior model based psychoeducation and exercise intervention was significantly effective in improving the quality of life among People with alcohol use disorder, as after giving the intervention maximum of the patients in experimental group have fair and good quality of life and no difference was seen in the comparison group.

5. Discussion
Many researchers have been conducted in the national and international area to improve the quality of life of People with alcohol use disorder admitted in the deaddiction centers. The discussion has been presented in context of the findings revealed by the other researches.

The present study shows that the mean score of the quality of life after the administration of cognitive behavior model based psychoeducation and exercise intervention was 75.16 which is consistent with the findings of the study conducted by Ganime Can Gur et al shows that the mean score of Quality of life after administering the same intervention was 76.89. (Ganime Can Gur et al, 2107) [6].

The present study found that maximum of the People with alcohol use disorder i.e. (72%) were having an previous history of relapse in de- addiction centers. This finding is consistent with the findings of the study conducted by Mats Hallgern Davy Vancampfort, Esther S Giesen. As the findings of the study were 76% of the People with alcohol use disorder were having a previous history of relapse. (Mats Hallgen Davy Vancampfort, Esther S.

6. Limitations
Limitations of present study were:
▪ Sample attrition was there in comparison group after post-test 2.

7. Recommendations
▪ A comparative study was conducted to compare the effectiveness of cognitive behavior model based psychoeducation and exercise intervention.
▪ A study can be conducted to check the effectiveness of the same interventions on patients with multiple drug abuse.

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