Effect of Motivational Enhancement Therapy (MET) on the self efficacy of Individuals of Alcohol dependence

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ABSTRACT

Introduction: Motivational enhancement therapy is characterized as a directive, client-centered intervention which helps in modification of behavior by helping subjects in identifying and resolving the ambivalence toward a change in self. In order to free one from the vicious cycle of the alcohol trap one needs self-efficacy, which serves a protective role to prevent from relapses. The study aims to assess and compare the effectiveness of MET on the self-efficacy of individuals pre and posttest with control design were applied. Methods: A total of 40 subjects, alcohol-dependent persons fulfilling International classification of Diseases-10 criteria were selected through purposive sampling method from Outdoor and Indoor Service of Psychiatry Department IMS BHU, Varanasi, were randomly divided into two groups. 1st group 20 subjects were given motivational enhancement therapy session for 10 sessions along with treatment as usual (MET + TAU), whereas 2nd group control group were given treatment as usual (TAU) at the end of intervention post level of self-efficacy were measured through self-efficacy scale. Modified Kuppuswamy Socioeconomic Status Scale, Alcohol use disorder identification test, Self-Efficacy Scale as tools were used. Result: The result shows that the mean value of self-efficacy in (MET + TAU) group before intervention was 56.30 ± 2.99 and mean value of self-efficacy in (MET + TAU) after intervention was 60.75 ± 2.65 which shows significant difference is found in self-efficacy after intervention. Conclusion: Motivational enhancement therapy tries to decrease ambivalence so as to enhance the change in the subject’s self-efficacy which assists the individuals in abstinence from alcohol.

Keywords: Alcohol dependence, motivational interviewing, self-efficacy
is a form of belief on own ability to change or confidence to change and abstain from drug use in situations of high risk.\textsuperscript{[3]} Coping self-efficacy acts as a shield to protect against relapse in adolescents suffering with a dual diagnosis of substance use and other psychiatric disorders. Self-efficacy is considered to be the patients’ confidence in their capacity to lessen and discontinue alcohol, counter craving and temptation, and helps in maintaining changed behavior for long.\textsuperscript{[4]}

There is a range of approaches available for substance use disorders treatment. The management approaches which have proven efficacy include the skill based relapse prevention strategies, 12 step contingency management programs, and cognitive behavior therapy (CBT) therapies.\textsuperscript{[5–8]} Some treatment methods use the confrontational styles or make use of methods to directly and actively move the subject toward the change in behavior; however, some researchers are of the opinion that such treatment options might be counterproductive if these methods are used before the subject has had a resolution of ambivalence about the desire to change.\textsuperscript{[9]} The major obstacle in treating alcohol and substance dependents persons is the dearth of motivation to change among them. Interventions that target motivational factors have received significant attention in the area of addiction treatment.\textsuperscript{[10,11]} One of those that have a significant empirical basis is motivational interviewing (MI).

MI is defined as “a client-centered, directive method for enhancing intrinsic motivation to change by exploring and resolving ambivalence.”\textsuperscript{[11]}

\section*{Aim}

To assess and compare the effectiveness of MET on self-efficacy in person with alcohol dependence before and after intervention.

\section*{Methods}

\subsection*{Research design}

Pre and posttest with control design.

\subsection*{Study design}

A total of 40 subjects, alcohol-dependent persons fulfilling ICD-10 criteria were selected through purposive sampling method from Outdoor and Indoor Service of Psychiatry Department IMS BHU, Varanasi, were subsequently divided into two groups. 1\textsuperscript{st} group 20 subjects were given motivational enhancement therapy along with treatment as usual (MET + TAU) for 10 sessions, and 2\textsuperscript{nd} group 20 subjects, i.e., control group were given only treatment as usual (TAU) and put on waiting list. At the end of intervention post level of self-efficacy were measured through self-efficacy scale (SES). Pre and post-test with control design were used. Study period between April 2018 and April 2019. The institute ethics committee gave consent for the study.

\subsection*{Inclusion criteria for patients}

- All subjects coming to outpatient department and inpatient department in psychiatry department of IMS BHU for treatment of alcohol dependence syndrome and desirable for abstinence diagnosed fulfilling ICD-10.
- Age range of patients between 21 and 60 years.
- Subjects having received education up to primary level or above.
- Written informed consent.

\subsection*{Exclusion criteria for patients}

- Patients with any co-morbid psychiatric, neurological disorder, and physical problem.
- Patients using multiple substances.

\subsection*{Inclusion criteria for wife}

- Married for at least 1 year.
- Primary education and above with ability to read and write.
- Having no physical and psychiatric illness.
- Given written consent.
- 18 years and above.

\subsection*{Tools}

- Sociodemographic datasheet- A semi-structured and pre-tested performa has been used. It contains information about sociodemographic variables like age, sex, religion, education, marital status, domicile, and occupation.
- Modified Kuppuswamy Socioeconomic Status Scale - Kuppuswamy socioeconomic status scale is one of the useful tools in community and hospital research in India. It suited equally for both urban and rural populations. It was proposed in 1976. Scale considers income, occupation, education.
- Alcohol use disorder identification test (AUDIT) – This is a screening instrument developed to detect early harmful or hazardous consumption of alcohol. It consists of 10-item focuses mainly on three areas (1) Quantity and frequency of alcohol use indicative of harmful alcohol use (items 1-3); (2) Indicators of dependence (items 4-6); and (3) adverse consequences suggesting harmful use (items 7-10). The items are scored 0 (never) to 4 (Daily or almost daily). It takes about 2–3 min to apply and score it. AUDIT shows high internal consistency as the value of Cronbach alpha = 0.80 and reliability ranges from 0.64 to 0.92.\textsuperscript{[13]}
- Self-Efficacy Scale - Present scale has 19 items and is translated into Hindi from 23 item SES of Sherer et al. (1982) having two factor representing general and social self-efficacy factors of SES. The Cronbach’s alpha reliability coefficients are 0.74 and 0.99 for the two factors and 1 for whole scale. The test–retest reliability values, 0.91 and 0.94 for the two factors and 0.93 for the whole scale.\textsuperscript{[14]}

\subsection*{Procedure}

Participants fulfilling the inclusion and exclusion criteria were enrolled for study, after taking a written informed consent.
Sociodemographic datasheet, Kuppuswamy socioeconomic status scale, AUDIT scale, SES were used. AUDIT scale was used for screening harmful and hazardous alcohol consumption. Total 40 subjects alcohol-dependent persons recruited through purposive sampling method were divided equally in two groups. 1\textsuperscript{st} group 20 subjects were given motivational enhancement therapy along with treatment as usual (MET + TAU) respectively for total 10 sessions consisting of lifestyle, decisional balance pros, and cons of alcohol use, exploring values, supporting self-efficacy, i.e., success stories, looking forward, information related to raising awareness the good and bad thing of taking alcohol, craving management and coping skills, i.e., distraction techniques\cite{19} and 2\textsuperscript{nd} group 20 subjects consisting Control group was provided treatment as usual (TAU) and put on waiting list.

**Ethical clearance**

The present study has been ethically approved (on 20 February 2018) by the Ethical Committee of IMS BHU, Varanasi, Uttar Pradesh, India.

**Statistical analysis**

For the tabulation and analysis of the data, Microsoft Excel 2013 and SPSS IBM trial version 20.0 programs were used. Pre and post status of self-efficacy were compared with the application of independent sample t test.

### Result

Table 1 shows sociodemographic details in age group, majority of respondent about 35% were in 31–35 years age range in experiment (MET + TAU) group, whereas 50% in 31–35 years age range in control (TAU) group respectively. Regarding education high number of respondents about 35% belongs to graduation standard in experiment (MET + TAU) group, whereas 35% belongs to control (TAU) group from high school. In occupation, majorly respondents were engaged in job category which was about 60% in experiment (MET + TAU), whereas majority of respondents about 65% belongs to job category in control (TAU) group, respectively. Majority of respondents about 65% belongs to urban area in experiment (MET + TAU) group, whereas 55% belongs to same in control (TAU) group. A vast number of respondents about 70% come from nuclear family in experiments (MET + TAU) group, whereas 60% belongs to nuclear family in control (TAU) group, respectively. Majority of respondents about 50% belongs to lower middle class in (MET + TAU) group, whereas 45% belongs to lower middle in control (TAU), respectively.

Table 2 depicts that mean value of self-efficacy before intervention in (MET + TAU) group is 56.30 ± 2.99 and in control (TAU) group is 56.25 ± 4.58 which indicates there is no significant difference ($p > 0.05$).

| Variable | Experiment (MET + TAU) (n=20) | Control (TAU) (n=20) | $t$ | $P$ |
|----------|-------------------------------|----------------------|-----|-----|
| Self-efficacy | 56.30±2.99 | 56.25±4.58 | 0.041 | 0.968 |

Table 3 Shows the mean value of self-efficacy after intervention in (MET + TAU) group is 60.75 ± 2.65 and in control (TAU) group is 57.30 ± 4.63 which indicates there is significant difference ($p < 0.05$).

While comparing the mean of self efficacy score before and after interventions in the experiment (MET+TAU) group the mean self efficacy score in experiment group was found 56.30 ± 2.99 where after the intervention the mean self efficacy score was increased 60.75 ± 2.65 [Figure 1].
Kumar, et al.: Effect of motivational enhancement therapy (MET) on the self efficacy of individuals of alcohol dependence.

There was a small amount of change was observed in the mean of self efficacy score in the control (TAU) group after the intervention. The mean self efficacy score in control group before the intervention was found 56.25 ± 4.58 and after the intervention it was found 57.30 ± 4.63, respectively [Figure 2].

**Discussion**

Present study was carried out to assess and compare the effectiveness of motivational enhancement therapy on self-efficacy before and after intervention in person with alcohol dependence.

The finding of our result depicts that the mean value of self-efficacy in experiment (MET + TAU) group before motivational enhancement therapy intervention was 56.30 ± 2.99 and mean value of self-efficacy in experiment (MET + TAU) group after motivation enhancement therapy intervention was 60.75 ± 2.65. Whereas mean value of self-efficacy in control (TAU) before intervention was 56.25 ± 4.58 and mean value of control (TAU) group after intervention was 57.30 ± 4.63. On comparison it was found that after motivation enhancement therapy there was significant difference (p value = 0.006), in mean than self-efficacy values with group where only treatment as usual was given.

As we can conclude from our result that after (MET + TAU) motivational enhancement therapy intervention score of self-efficacy enhances which is consistent with the other study of who conducted a study in Stockholm hospital de-addiction unit on 35 patients who were given one session of MET were compared with 52 subjects who received treatment as usual at before intervention and after 3 months. The group who gets MI sessions recorded with increased self-efficacy for abstention followed with participant's transition toward preparation/action stages of change. A study explored that clients receiving integrated MI and CBT sessions in an outpatient setting shows increased self-efficacy after the MI session.

A study conducted to see the status of self-efficacy and perceived social support of 101 alcohol-dependent subjects in Kansas county center for addictive disorders after treating them through Minnesota 12-step program concluded that the overall self-efficacy, drinking refusal self-efficacy and social support of alcohol-dependent women and men at the end of treatment was higher than at the beginning of treatment which supports our finding. A study conducted to examine the impact of MI on self-efficacy, motivation, and outcome expectancies in adolescents. The finding depicts that the intervention assisted in the behavior change in the positive way indicates an enhancement in motivation and abstinence from the use of substance, also an increase in the self-efficacy to be able to ignore the addictive agent. A study was organized to see the impact of web-based intervention to assist young people to quit and lessen their cannabis use and found that after the intervention program self-efficacy enhanced remarkably.

A total of 107 subjects having alcohol dependence were examined by random allocation in a controlled trial looking at the self-efficacy and persistence of abstinence, the study concluded that brief motivational improvement had no effect on the abstinence behavior, at the same time correlation was seen between high self-efficacy and abstinence for long period.

One of the contradictory studies to our finding conducted a study to evaluate the effectiveness of motivational enhancement therapy employed on a group setting in a substance abuse treatment community agency and concluded that participants showed no statistically significant change in the value of readiness to change and in their self-efficacy value. In a recent presentation in Paris an Indian study from Muzaffarpur was presented, the authors looked at self-efficacy in alcohol dependence subjects using a randomized control trial, the findings were similar to our findings in terms of the effectiveness of self-efficacy in alcohol dependence subjects.
Kumar, et al.: Effect of motivational enhancement therapy (MET) on the self efficacy of individuals of alcohol dependence.

Limitation
As the sample size is small and it is a hospital based study, result cannot be generalized on every field. Purposive sample is utilized for recruitment of subjects which indicates researcher convenience.

Recommendation
More clear and vivid result comes out if more study on larger sample will be conducted. There should be some more studies be conducted to assess the effect of motivational enhancement therapy in other substance use disorder (cannabis, opioids, etc.)

Conclusion
Alcohol is one of the largest risk factors for genesis of disease. Every year vast share of the budget of different countries goes into tackling health-related problems associated with alcohol abuse. The high relapse rate in the case of substance dependence again adds a burden on the health system. Relapse occurs most of the time due to low self-efficacy and weak coping skill of substance-dependent peoples to the high-risk situation in such conditions along with medicinal treatment, psychosocial intervention like motivational enhancement therapy shows an effective role and can be helpful in enhancing self-efficacy of alcohol dependents.

Summary point
1. A simple and cost-effective method of self-efficacy training can help in decreasing the public health problem of alcohol dependence
2. The self-efficacy treatment can be imparted in a group setting
3. The primary level clinician can be effectively trained in this method of management at community level.

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Conflicts of interest
There are no conflicts of interest.

Highlights
- A psychotherapeutic intervention like motivational enhancement therapy (MET) along with medicinal treatment gives positive outcomes in the treatment of alcohol dependence.
- Self-efficacy enhances with motivational enhancement therapy intervention which assists individuals in coming out of trap of alcohol dependence.
- In India, there is a resource crunch in which short interventions which have better management potential are the need of the day. Training the primary level practitioners in MET and self-efficacy can prove to be a smart and cost-effective primary level management strategy, wherein the patients can be targeted and managed at the primary and community level in groups.

References
1. American Psychiatric Association. Diagnostic and Statistical Manual of Mental Disorders. American Psychiatric Publishing; 2013.
2. Griswold MG, Fullman N, Hawley C, Arian N, Zimmes SR, Tynesont HD, et al. Alcohol use and burden for 195 countries and territories, 1990–2016: A systematic analysis for the Global Burden of Disease Study 2016. Lancet 2018;392:1015-35.
3. Bandura A. Self-efficacy mechanism in human agency. Am Psychologist 1982;37:122.
4. Ramo DE, Anderson KG, Tate SR, Brown SA. Characteristics of relapse to substance use in comorbid adolescents. Addict Behav 2005;30:1811-23.
5. Horsfall J, Cleary M, Hunt GE, Walter G. Psychosocial treatments for people with co-occurring severe mental illnesses and substance use disorders (dual diagnosis): A review of empirical evidence. Harv Rev Psychiatry 2009;17:24-34.
6. Project MATCH Research Group. Matching alcoholism treatments to client heterogeneity: Project MATCH three-year drinking outcomes. Alcoholism: Clin Exp Res 1998;22:1300-11.
7. Rawson RA, Huber A, McCann M, Shoptaw S, Farabee D, Reiber C, et al. A comparison of contingency management and cognitive-behavioral approaches during methadone maintenance treatment for cocaine dependence. Arch Gen Psychiat 2002;59:817-24.
8. Wells EA, Peterson PL, Gainey RR, Hawkins JD, Catalano RF. Outpatient treatment for cocaine abuse: A controlled comparison of relapse prevention and twelve-step approaches. Am J Drug Alcohol Abuse 1994;20:1-17.
9. Moyers TB, Waldorf VA. Motivational interviewing: Destination, direction and means. In F. Rotgers, J. Morgenstern, & S. T. Walters (Eds.), Treating substance abuse: Theory and technique. New York: The Guilford Press 2003;2:298-313.
10. Bien TH, Miller WR, Tonigan JS. Brief interventions for alcohol problems: A review. Addiction 1993;88:315-36.
11. Miller WR, Rollnick S. Motivational Interviewing: Helping People Change. Guilford Press; 2012.
12. Tabassum N, Rao RL. An updated Kuppuswamy’s socio-economic classification for 2017. Int J Health Sci Res 2017;7:365-7.
13. Babor TF, Higgins-Biddle JC, Saunders JB, Monteiro MG. Audit, The Alcohol Use Disorders Identification Test (AUDIT): Guidelines for Use in Primary Care. Geneva: World Health Organization 2001;21:7.
14. Matto SK, Malhotra R. Self-efficacy Scale: Hindi translation and factor structure. Indian J Clin Psychol 1998;25:154-58.
15. Ingersoll KS, Wagner CC, Gharib S. Motivational Groups for Community Substance Abuse Programs. Richmond, VA: Mid-Atlantic Addiction Technology Transfer Center; 2000.
Kumar, et al.: Effect of motivational enhancement therapy (MET) on the self efficacy of individuals of alcohol dependence.

16. Berman AH, Forsberg L, Durbeej N, Källmén H, Hermansson U. Single-session motivational interviewing for drug detoxification inpatients: Effects on self-efficacy, stages of change and substance use. Subst Use Misuse 2010;45:384-402.

17. Moore M, Flamez B, Szirony GM. Motivational interviewing and dual diagnosis clients: Enhancing self-efficacy and treatment completion. J Subst Use 2018;23:247-53.

18. Cibulskyte M, Zajanckauskaite L. The changes of self-efficacy and perceived social support of addicted to alcohol women and men during treatment period. Int J Psychol: a biopsychosocial approach 2017;20:23-40.

19. Rabkin SP. How motivational interviewing affects the motivation, self-efficacy, and outcome expectancies of adjudicated adolescents in a school setting (Doctoral dissertation, Duquesne University); 2015.

20. Tossmann DH, Jonas B, Tensil MD, Lang P, Strüber E. A controlled trial of an internet-based intervention program for cannabis users. Cyberpsychol Behav Soc Netw 2011;14:673-9.

21. Romo L, Strat YL, Aubry C, Marquez S, Houdeyer K, Batel P, et al. The role of brief motivational intervention on self-efficacy and abstinence in a cohort of patients with alcohol dependence. Int J Psychiatry Med 2009;39:313-23.

22. Willerick MS. Effectiveness of a motivational enhancement group treatment in a community treatment program with a substance abusing population; 2011.

23. Ghosh D, Raj S. Efficacy of Motivational Enhancement Therapy in Improving Readiness to Change in Alcohol Users: A Randomized Controlled Study March 2020, Conference: International Convention of Psychological Sciences, Paris, France. Available from: https://www.researchgate.net/publication/340514073_Efficacy_of_Motivational_Enhancement_Therapy_in_Improving_Readiness_to_Change_in_Alcohol_Users_A_Randomized_Controlled_Study/citations. [Cited on 2020 Oct 4].