The International Journal of Indian Psychology
ISSN 2348-5396 (Online) | ISSN: 2349-3429 (Print)
Volume 8, Issue 2, April- June, 2020
DIP: 18.01.027/20200802, DOI: 10.25215/0802.027
http://www.ijip.in

Research Paper

Effectiveness of progressive muscle relaxation training on aggression among the individuals with alcohol dependence

Rafia Rashid[1]*, Kiran Srivastava[2]

ABSTRACT

The current study exclusively analyzed the Effectiveness of Progressive Muscle Relaxation Training on Aggression among the Individuals with Alcohol Dependence. Methodology involved a control group pretest posttest design was used. The sample size which included (n= 30) alcohol patients were recruited for the present study and were divided in two groups. All individuals were recruited from different psychiatric centres located across Lucknow. The clinical data sheet and questionnaire of Aggression by Dr. G. P. Mathur and Dr. Raj Kumari Bhatnagar (2004) was administered. Progressive Muscle Relaxation Training by Bernstein (1973) was administered twice a day for 2 weeks (8 sessions) to experimental group but not to the control group. After the administration of Progressive Muscle Relaxation Training, post level assessment was done again. The current study showed a significant difference on pre and post intervention scores on aggression. Additionally, this study also revealed that Progressive muscle relaxation training resulted in significant decrease in aggression in alcohol dependent patients. Conclusively, progressive muscle relaxation technique is cost effective, non-invasive, non– pharmacological therapy. Progressive muscle relaxation technique is an effective and efficient therapy which can be used for the treatment and management of Aggression in alcohol dependent patients.

Keywords: *Progressive muscle relaxation technique, Aggression, Alcohol dependent*

Alcohol Dependence

As per the definition of world health organization, a person is said to be dependent on a drug or alcohol when he or she finds it very difficult to stop taking that drug or alcohol without any help, after he or she has taken it regularly for a certain period of time. Dependence may be physical or psychological, or both. In the case of physical dependence, the person becomes ill when use of the drug or alcohol is stopped. For example, if a person who has been taking alcohol regularly for some time stops taking it, the following may occur: aching muscles, abdominal cramps, vomiting, diarrhea, sweating, running nose, tears, and sleeplessness. A person physically dependent on substances will experience mild to severe symptoms on withdrawal, including chills, fever, fears, irritability, confusion, stress, anxiety, depression, violent behavior, or convulsions. The DSM-IV distinguishes two types

[1]Amity Institute of Behavioural and allied Science Amity University, Lucknow, India
[2]Department of Clinical Psychology, Amity University Uttar Pradesh, Lucknow, India
*Responding Author

Received: April 10, 2020; Revision Received: May 26, 2020; Accepted: June 25, 2020

of alcohol related issues: alcohol abuse and alcohol dependence(Association). However, the **DSM-V** has clubbed the two in one definition as "alcohol use disorders"(Association, 2013). As per the DSM V, a person with alcohol dependence possesses many specific symptoms, including:

1. Cannot control the amount of alcohol intake
2. Show withdrawal symptoms after consumption ends
3. Extreme changes in daily habits due to drinking effects
4. No self control on drinking
5. Need of increased consumption in order to become intoxicated

Chemically alcohols are defined as those organic compounds which contain hydroxyl group linked to the carbon atom. In everyday life, alcohols are defined as those beverages which contain ethyl alcohol or ethanol. Evidently the alcohols are either produced synthetically or from the natural ingredients. After water and tea, the alcohol makes the third most popular drink used all over the world. As per the reports of world health organization 2010, the consumption of alcoholic beverages has increased tremendously and in 2010, it was reported that a person aged 15 years or older consumes 6.2 litres of pure alcohol every day. It was also stated that near about 2.3 million people die each year from the adverse usage of alcohol. Thus, alcohol related deaths account for around 3.8% of total deaths worldwide. The World Health Organization (WHO) listed alcohol consumption as the third leading risk factor for premature death and disabilities in the world, which is in the same order as tobacco and hypertension. An estimated 4.5% of the global burden of disease—as measured in disability-adjusted life years—is caused by harmful use of alcohol(Organization, 2010). Alcohol consumption is directly or indirectly related to various diseases like cardiovascular disease and liver cirrhosis which makes half the percentage of deaths caused due to harmful alcohol consumption.

Aggression

Baron defined aggressive behavior as any action which is aimed to harm or injure another person who is engaged to evade such treatment (Baron and Richardson, 2004). Social psychologists define aggression as behavior that is directed to harm another individual who does not wish to be harmed. Since, it involves the perception of intent, what seems aggression from one point of view may not seem that way from another, and thus depending on the intent same harmful behavior may or may not be aggressive.

Aggressive behaviour can also be suitable (e.g., self-defensive) or, on the other hand, it can also be destructive to that person and others, thereby leading to the self-damage (Ferris and Grisso, 1998). Buss (1961) proposed that aggressive acts can be classified by using combinations of three categories: physical-verbal, active-passive, and direct-indirect (Buss, 1961). From time immemorial it has been assumed that people under the influence of alcohol behave very aggressively. There has been a vast number of research which explain the relationship of alcohol and aggression however passive acts of aggression (e.g., refusal of speak to another person, sit-in demonstration) and indirect acts of physical aggression (e.g., setting a booby trap for another person) have not been used in experimental studies of alcohol and aggression.

Conclusively, human aggression is any behavior directed toward another individual that is carried out with the proximate (immediate) intent to cause harm (Baron and Richardson, 2004; Bushman and Anderson, 2001). Since the behavior is the intended one, the perpetrator

must believe in harming the target and in the reaction the target is motivated to avoid the behavior(Berkowitz, 1993; Geen, 1990). The alcohol-drug abuse-violence nexus presents itself in various distinctly different forms. The alcohol and other drugs of abuse acts on brain mechanisms that motivates high-risk individual to engage in aggressive and violent behavior. There is increasing evidence that alcohol dependent person are involved in the aggression which leads to various crimes like rape, murder and burglary. A number of reports have confirmed the growing incidence of domestic violence in India due to the alcohol dependency and recent years has witnessed upsurge in the incidence rate. Intermit disorder, also known as aggression disorder, is characterized by recurring, sudden episodes of impulsive, aggressive and violent behavior or angry outbursts. These episodes usually last for less than 30 minutes. The frequency varies where episodes may be separated by weeks or even months of absence of aggressive behavior. There are various complicated generalization about the direct or indirect relationship of alcohol or drug abuse and violence (e.g., Goldstein 1985); these range from (1) drugs activating aggression-specific brain mechanisms, through (2) drugs acting as licensure for violent and aggressive behavior, as well as (3) drugs as commodities in an illegal distribution system that relies upon violent enforcement tactics, to (4) violent behavior representing one of the means by which a drug habit is maintained(Goldstein, 1985).

Intervention in Alcohol dependence

There has been vast number of interventions applied in alcohol dependence yet none of them had individually yielded the effective results. These include,

1. **Brief opportunistic intervention:** The effectiveness of brief opportunistic interventions has been established primarily for alcohol use problems, although they have been applied to patients using other substances as well. The aim of the intervention is to help the patient understand that their substance use is putting them at risk and to encourage them to reduce or give up their substance use They generally result in a 20-30% reduction in excessive drinking.
2. **Motivational Intervention therapy:** Motivational Intervention therapy helps people to explore and resolve their ambivalence about their substance use and begin to make positive behavioral and psychological changes.
3. **Cue exposure treatment**: In this approach, alcohol-dependent individuals are exposed to cues such as the sight and smell of a favourite drink, without actually consuming alcohol. There is clear evidence of reactivity to alcohol cues, including alcohol craving, which is related to the severity of alcohol dependence
4. **Cognitive Behavioral Therapy**: Cognitive behavioral interventions comprise an array of approaches based on the learning principles and theorize that behavior is influenced by cognitive processes. Standard CBT is a time-limited, structured psychological intervention, derived from a cognitive model of drug misuse. There is an emphasis on identifying and modifying irrational thoughts, managing negative mood and intervening after a lapse to prevent a full-blown relapse. Typical cognitive strategies employed are recognizing and challenging dysfunctional thoughts about substances and recognizing seemingly irrelevant decisions that lead to a relapse. One of the therapies that come under the CBT includes PMRT.
5. **Progressive Muscle Relaxation Technique**: Progressive Muscle Relaxation (PMR) is very famous technique known for its muscle tension relieving effects and consists of a series of exercises involving tensing and relaxing muscle groups (Khanna et al., 2007). It was developed by American physician Edmund Jacobson in the early 1920s

and has two components in the form of physical and mental aspect (Pawlow and Jones, 2002).

Relaxation reduce pain or pain perception and tension, create a pleasant mental state, decrease anticipatory anxiety, decrease anxiety as a response to stress, elevate parasympathetic activities and knowledge concerning muscle tension and autonomous stimuli, improves concentration, increases the feeling of control, improves the ability to block inner talk, energize and improve sleep, decrease the cardiac index, lower blood pressure, warm or cool body parts, enhance performance of physical activities and help in the relationship with other. So, the Progressive Muscular Relaxation has long-term benefits which improve the quality of life in patients (Sharma et al., 2013; Varvogli and Darviri, 2011). There are many physical, biological and psychological benefits of using relaxation techniques. These benefits have been widely documented, with immediate effects including decreased heart rate, blood pressure and cortisol levels (Chellew et al., 2015). Using PMRT for a quite long-time results in better sleep, boots immune system thereby less chances of developing sickness and disease. Besides pain can also be managed with regular specialized relaxation practise. Psychologically, relaxation can elevate sense of general well-being and improve capacity to think clearly, focus and sustain attention, manage stress, regulate emotions and increase awareness. Progressive muscle relaxation is a stress relief technique and relies upon subtle rather than gross (large) muscular movements to increase relaxation and tension relief.

Progressive muscle relaxation is based on the observation that it is easier for muscles to relax from high tension position than lower tension. For instance, muscular tension associated with the headache and bodily pains are a sort of moderate residual tension hardly recognized by the people for days. It is however not the same tension which is created while lifting the heavy objects. PMRT works on the principle of tightening and releasing all the major muscle groups of the body in an exaggerated fashion. While doing so will end up feeling more relaxed and at peace with very less or no stress. Additionally, the conscious effort of exaggeration and release of muscle tension also helps to recognize the instance of holding unnecessary muscular tension and hence the use of muscle relation technique to relieve this stress. PMRT is a easy method that can be easily done to achieve relaxation and by doing so to reducing emotional distress. It has been observed that there is vivid decrease or delay in onset of conditioned symptoms by practicing PMRT(Li et al., 2015). Practicing PMRT regularly can also increase coping ability in a variety of stressful situations. Additionally, many empirical studies have found that PMRT can increase feelings of self-control (Chen et al., 2009; Molassiotis, 2000). Regular practicing of PMRT also provides patients with familiarity with their tension and thus the way to feel relaxed throughout the body resulting in reduction of anxiety over time (Singh et al., 2009).

Progressive muscle relaxation brings disturbed nervous system back to the normal active state. PMRT is not just lying on couch and sleep but it is a way to reduce anxiety, depression, aggression and stress which develop in alcohol dependent patient (Barrows and Jacobs, 2002). As a systematic technique used to achieve a deep state of physical and mental relaxation, PMRT has been proven effective in reducing anxiety and depression in a variety of conditions including insomnia, asthma, coronary artery bypass surgery, and chemotherapy-induced nausea (Dehdari et al., 2009). PMRT can also effectively improve anxiety, depression, and quality of life in patients with alcohol dependence.

REVIEW OF LITERATURE

Dependency is classified as physical or psychological, or both. Physical dependency makes person ill whenever the use of the drug or alcohol is halted. For instance, a person who takes alcohol regularly for some time will fall ill if he suddenly tries to stop taking it and will develop muscle ache, abdominal cramps, diarrhea, vomiting, excessive sweating, running nose, tears and more evidently sleeplessness. The physical dependence person on withdrawal will also experience mild to severe symptoms of chills, irritation, confusion, stress, depression, anxiety, aggression, fear and convulsions. Additionally, the burden of signs and symptoms of withdrawal is determined by the amount or doses of drug or alcohol taken by that person.

India is huge country with the population of 1.3 billion and at least 20% of this population has tried alcohol at least once. Moreover, the drinking capacity and the habit of drinking vary greatly between different regions or states. Unlike many other western countries India has seen a dramatic rise in the percentage of alcohol intake. Factually, India has become one of largest producer of alcohol beverages and this has led to the increase in alcohol consumption to about 106.7% from 1970 to 1995 while in the past decade the number of alcohol consumers has increase from 1 to 300 persons. Eventually, a worrying number of around 14 million people have been reported to be alcohol dependent and are in dire need of help.

The 2003 National Survey for Alcohol and Drug Abuse found that of the total 40697 male respondents (across 25 states, covering rural and urban populations) aged 12-60 years, 74.1% reported life-time abstinence and 21.4% reported being current users (used in last 30 days) of alcohol. Of the total-users, 17% were classified as dependant users (based on the International Classification of Diseases 10) (Organization, 2010). The prevalence rate reported in this study is higher than that in the following secondary two national studies as well as in other regional or community specific epidemiological studies that have been conducted so far.

Perception of threat or challenge relies on the brain information processing circuits, such as the primary sensory projections and sensory association cortices that are involved in perceiving external environmental stimuli as well as internally generated cognitive and affective stimuli. Various events in life induce a stress response in an individual which ultimately leads to the one or more than one conditioned or unconditioned emotional reactions. These responses may include aggression, depression, anxiety, excitement, pain, pleasure and sadness. Since to every action is an equal and opposite reaction holds good for these responses also. So, these reactions are proportional to the specific features of the situation, an appraisal of the episode and available coping resources, and the pre emotional state of the person. Comorbid depressive as well as anxiety disorders are frequently reported in high proportions among alcohol-related disorders. Comorbid psychiatric disorders in alcohol dependence are a hot area of research due to countless reasons. The ultimate results of such cases are high rates of suicide and disability (Merikangas et al., 1998).

The clinically observed association of alcohol and aggression is well documented, but its chronological sequence is complex to determine. Alcohols as well as many illicit drugs are depressions, the frequent exercises of which construct both the subjective feelings of depression and other signs such aggression and appetite disturbance, cognitive impairment, and decreased energy characteristic of the depressed syndrome. Literature suggests that the

more a person drinks the more they are likely to develop aggression. Several longitudinal studies have investigated the demographic and pyschosocial correlates of alcohol abuse, but the findings have been somewhat conflicting. Kaplan reported that among adolescents, lowered self-esteem-initiated drug use thereby produced an effective enhancement in self-esteem. This would imply that depressive symptomatology preceded drug use (Kaplan et al., 1977). An implicit assumption in the application of relaxation training to the treatment of substance abuse is that such procedures can alleviate anxiety, assessed either in nonstress or stress situations.

Brain is the main organ which is capable of perception of threat or challenge and this perception will holy and solely dependent on the processing by the brain circuits including the primary sensory projections and sensory association cortices. These units are involved in the perception of external environmental stimuli as well as internally generated cognitive and affective stimuli. Benegal et al. (2007) did a research and sampled 658 injury cases reported to the Emergency Department (ED) of the largest and most reputed general hospital in Bangalore. The injuries represented more than half (54.5%) of all cases seen at the ED during the study period. A high proportion of injuries were found to be alcohol related. It was found that 23.7% of all subjects presenting for treatment of injuries had consumed alcohol prior to the injury occurrence (Benegal et al., 2007). Varma and colleagues did a study on 203 women attending an antenatal clinic in a public hospital in Bangalore. The results showed 30 of 203 women who encounter physical and psychological violence. It was also reported that spouses of around 82 percent of these abused women were highly prevalent to alcohol use compared to 18 percent women with no history of alcohol use (Varma et al., 2007).

Parker conducted group discussions with local slum population in Mumbai to identify the needs of the community for a community based mental health program. Upon investigation it was found that 60% to 70% of the male population used local made alcohol and there was high incidence of domestic violence and harassment by these males(Parkar et al., 2003).

According to Benson, progressive muscular relaxation is the most popular relaxation training technique and meditation besides autogenic training, biofeedback, and hypnotically-induced relaxation. These techniques do not only have the peripheral (muscular, autonomic) effects but more importantly they possess the central nervous system effects. The exact nature of effect which these techniques encompass is still not clarified. Broadly, the assessment of relaxation has at least five classes of measures metabolic (e.g., metabolic rate), somatic (e.g., EMG, respiration, heart rate, blood pressure), performance (e.g., reaction time), attentional (e.g., EEG), and cognitive (e.g., self-reports of anxiety)(Benson, 1983).

Since we have expanded our understanding of progressive muscle relaxation response, we can find increasing evidences that relaxation can serve not only as a agent of reducing stress but can also alleviate other problems including depression, anxiety and aggression. The literature has documented the benefits of PMRT on general health outcome. Various studies have confirmed the effectiveness of Progressive muscle relaxation technique in reducing the stress, anxiety, depression and aggression due to various clinical conditions like diabetes, cancer, hypertension, in mentally handicapped patients, as well as in alcohol depend patients. Al of these studies have confirmed the effectiveness of progressive muscle relaxation in reducing the anxiety, stress, and depression, to date, very few studies have assessed the effectiveness of progressive muscle relaxation in reducing these parameters in

alcohol dependence. Furthermore, no such study has assessed the role of PMRT in alleviating aggression. Keeping in consideration all the facts, this study is designed to evaluate the efficacy and potential role of Progressive muscle relaxation training in diminishing the stress, depression, anxiety and aggression in alcohol dependence patients.

METHODS AND MATERIALS

The study exclusively aims to understand the Effectiveness of Progressive Muscle Relaxation Training on Aggression among the Individuals with Alcohol Dependence on pre and post intervention design for 30 individuals with elevated level of aggression.

Participants

The sample size for the present study was 30 participants divided in two groups. The two groups included 15 participants in control and 15 in experimental group. All individuals are recruited from different psychiatric centers located across Lucknow. Consent was taken after a brief explanation about the study to the subjects and the family member accompanying the patient. The information was kept confidential. Patients below 18 and above 40 years and the ones who were not cooperative and willing to participate in this study were omitted. Furthermore, Patients meeting ICD -10 criteria for Alcohol dependence and who can read and understand English or Hindi language were taken in this study. However, patients having any bone and muscles deformity as well as no history of aggression in pretest were also not taken. Besides, Patients who are psychotic were also omitted. PMRT was only administered to experimental group but not to the control group. Following the assessment of the variables, PMRT is administered twice a day for 2 weeks (8 sessions) to experimental group but not to control group. After the administration of PMRT, post level assessment is done again.

Tools used

Aggression Questionnaire

The aggression questionnaire developed by Dr. G. P. Mathur and Dr. Raj Kumari Bhatnagar (2004) was used to assess the aggression among the participants. The scale contains 55 items. The test- reliability ranges from 0.81to 0.88.

Intervention plan

Following the assessment of the variables, PMRT is administered twice a day for 2 weeks (8 sessions) to experimental group but not to control group.

Statistical Analysis

The date was analysed using statistical package (SPSS) version 16.0. T-test was used to assess the significance in pre and post test on aggression.

RESULTS AND DISCUSSION

Table 1: Gender, Marital status, socioeconomic status and Age distribution

Variables		Frequency	Percentage
Gender	Male	30	100
	Female	0	0
Relationship status	Single	8	26.66
	Married	22	73.33
Socioeconomic	Urban	19	63.33

Variables		Frequency	Percentage
status	Rural	11	36.66
Age	18-28	3	10
	29-40	27	90
Occupation	Employed	25	83.3
	Unemployed	5	16.7

Majority of the cases belonged tom age group of 29-40 years. The greatest number of cases fell in the age group of 29-40 years. All of them were educated up to different levels. Occupational distribution shows 83.3% were employed and 16.7% were unemployed.

Figure No 1: Comparison of Pretest there is a severe level of aggression in alcohol dependent patient in both control and experimental group. However after implementation of PMRT, there is a significant reduction in the level of aggression in experimental group.

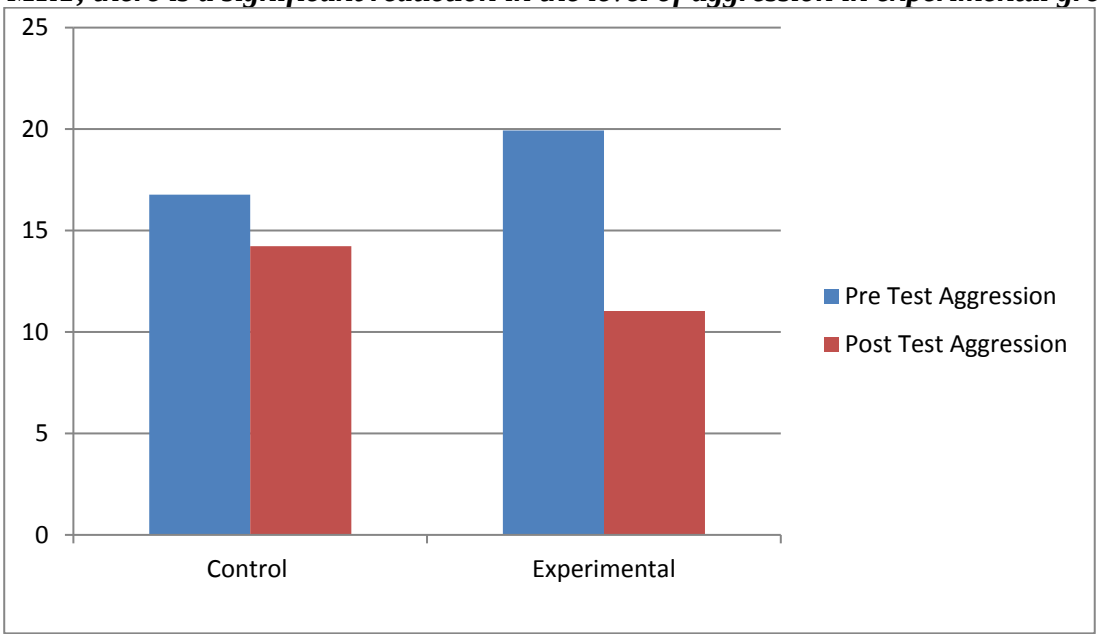

Table-2. Results of the Mann Whitney U Test to compare the Groups Pretest and posttest variables

	Group	N	Mean Rank	Sum of Ranks	Mann-Whitney U test	Significance **p<0.01
Aggression Pre	Experimental	15	15.57	213.50	93.5	0.005**
	Control	15	15.43	251.50		
Aggression Post	Experimental	15	10.91	166.00	46.0	
	Control	15	16.57	299.00		

***p<0.01 level of significance*
**p<0.05 level of significance*

Alcohol is consumed all over the world mainly for the purpose of relaxation, and social reasons. Small amount of alcohol produces positive health outcomes, yet the global burden of the alcohol dependence is higher than what is due to cigarette smoking (Jernigan and Organization, 2001; Keller, 2011). However, if a person consumes too much of alcohol, he

or she becomes dependent on alcohol thereby producing the harmful effects in that person. The abuse of alcohol become more and more prominent and has affected all dimensions of society. It takes an enormous, physical, economic and emotional toll on society. Additionally, the newly evolving ways of drinking are causing heavy toll of injuries, stress, disability, depression, anxiety, aggression and deaths which has restricted the levels of productivity in many parts of the world.

Aggression is a broader term which includes violence in physical dimension and all other behaviours that are hostile, threatening, or damaging in a nonphysical way. Various studies have reported a very strong relation between violence and substance use problems. Men who are married and are alcohol abusers are prone to involve in violence as compared to married person without alcohol dependence (Holtzworth-Munroe et al., 1997). Moreover, the connection between alcohol and partner violence can be observed cross sectionally and longitudinally (Heyman et al., 1995; Leonard and Senchak, 1996; Quigley and Leonard, 2000). Various researchers have reported a strong relation between marital violence and alcohol abuse. Others have argued that alcohol interferes with need for power, which involves violence (Dobash et al., 1992; Johnson, 2001) . In addition to the physiological effects of acute intoxication, alcohol may induce marital violence through neuropharmacologic squeal of heavy drinking like hangovers, sleeplessness, withdrawal and cognitive impairment (Conner and Ackerley, 1994; Leonard and Senchak, 1996).

In the current study the control group showed the mean pretest aggression score of 16.77, while as experimental group showed the pretest score of 14.23. Control showed mean aggression score of 19.93 while as posttest score in case of experimental group reduced to 11.03 after the incorporation of PMRT. Pretest and posttest scores of aggression indicated a decrease in the level of aggressive behaviour and the change was statistically significant ($p<0.05$). Our study is supported by the finding of Fung To & S.Chan in which they found 14.7% decrease in aggressive behavior in mentally handicapped patients after the introduction of PMRT(To and Chan, 2000). From the above results PMRT appears to be effective in alleviating the frequency of aggressive behaviours in alcohol dependent patients. Although in the pretest and posttest scores showed no significant difference but the frequency counts improved. There were improvements in other behaviors of the subjects after the post training; the lack of significant improvement in other behaviors can be related to inability to transfer the learning. Huesmann suggested that some aggressive behaviours are related to drive and are very hard to cease like that of sex related aggression (Huesmann and Miller, 1994). Due to the small number of subjects, the results in this study may not be applicable to other settings.

CONCLUSION

This study exclusively reports effectiveness of progressive muscle relaxation training aggression among the individuals with alcohol dependence in a single study. Overall, the current study contributes to the fact that progressive muscle relaxation training is an effective method of reducing aggression. Our statement is backed by the vivid difference in the scores recorded in experimental group in the pretest and posttest phases. The other confirmation about the efficacy of the progressive muscle relation training can be drawn from the scores of the control group. Nevertheless, we believe that the current study highlights a step forward in replicating the research model in which progressive muscle relaxation trainings is applied along with the other therapeutic treatments, bringing some

vital data about the beneficial effects that progressive muscle relaxation has in diluting the issues related to alcohol dependence.

REFERENCES

Association, A.P., Diagnostic and statistical manual of mental disorders, 4th edn, text revision. 2000. Washington, DC: American Psychiatric Association.

Association, D.-A.P., 2013. Diagnostic and statistical manual of mental disorders. Arlington: American Psychiatric Publishing.

Baron, R.A., Richardson, D.R., 2004. Human aggression. Springer Science & Business Media.

Barrows, K.A., Jacobs, B.P., 2002. Mind-body medicine: an introduction and review of the literature. Medical Clinics 86(1), 11-31.

Benegal, V., Antony, G., Venkatasubramanian, G., Jayakumar, P.N., 2007. Imaging study: gray matter volume abnormalities and externalizing symptoms in subjects at high risk for alcohol dependence. Addiction biology 12(1), 122-132.

Benson, H., 1983. The relaxation response: its subjective and objective historical precedents and physiology. Trends in Neurosciences 6, 281-284.

Berkowitz, L., 1993. Aggression: Its causes, consequences, and control. Mcgraw-Hill Book Company.

Bushman, B.J., Anderson, C.A., 2001. Is it time to pull the plug on hostile versus instrumental aggression dichotomy? Psychological review 108(1), 273.

Buss, A.H., 1961. The psychology of aggression. Wiley.

Chellew, K., Evans, P., Fornes-Vives, J., Perez, G., Garcia-Banda, G., 2015. The effect of progressive muscle relaxation on daily cortisol secretion. Stress 18(5), 538-544.

Chen, W.C., Chu, H., Lu, R.B., Chou, Y.H., Chen, C.H., Chang, Y.C., O'Brien, A.P., Chou, K.R., 2009. Efficacy of progressive muscle relaxation training in reducing anxiety in patients with acute schizophrenia. Journal of Clinical Nursing 18(15), 2187-2196.

Conner, K.R., Ackerley, G.D., 1994. Alcohol-related battering: Developing treatment strategies. Journal of Family Violence 9(2), 143-155.

Dehdari, T., Heidarnia, A., Ramezankhani, A., Sadeghian, S., Ghofranipour, F., 2009. Effects of progressive muscular relaxation training on quality of life in anxious patients after coronary artery bypass graft surgery. Indian Journal of Medical Research 129(5), 603.

Dobash, R.P., Dobash, R.E., Wilson, M., Daly, M., 1992. The myth of sexual symmetry in marital violence. Social problems 39(1), 71-91.

Ferris, C.F., Grisso, T., 1998. Understanding aggressive behavior in children.

Geen, R., 1990. Human Aggression Milton Keynes. Open University Press.

Goldstein, P.J., 1985. The drugs/violence nexus: A tripartite conceptual framework. Journal of drug issues 15(4), 493-506.

Heyman, R.E., O'Leary, K.D., Jouriles, E.N., 1995. Alcohol and aggressive personality styles: Potentiators of serious physical aggression against wives? Journal of Family Psychology 9(1), 44.

Holtzworth-Munroe, A., Bates, L., Smutzler, N., Sandin, E., 1997. A brief review of the research on husband violence part I: Maritally violent versus nonviolent men. Aggression and violent behavior 2(1), 65-99.

Huesmann, L.R., Miller, L.S., 1994. Long-term effects of repeated exposure to media violence in childhood, Aggressive behavior. Springer, pp. 153-186.

Jernigan, D.H., Organization, W.H., 2001. Global status report: alcohol and young people. Geneva: World Health Organization.

Johnson, H., 2001. Contrasting views of the role of alcohol in cases of wife assault. Journal of interpersonal violence 16(1), 54-72.

Kaplan, B.H., Cassel, J.C., Gore, S., 1977. Social support and health. Medical care 15(5), 47-58.

Keller, M., and Vaillant, G.E., 2011. Alcohol consumption. Encyclopaedia Britannica Online.

Khanna, A., Paul, M., Sandhu, J.S., 2007. A study to compare the effectiveness of GSR biofeedback training and progressive muscle relaxation training in reducing blood pressure and respiratory rate among highly stressed individuals.

Leonard, K.E., Senchak, M., 1996. Prospective prediction of husband marital aggression within newlywed couples. Journal of abnormal psychology 105(3), 369.

Li, Y., Wang, R., Tang, J., Chen, C., Tan, L., Wu, Z., Yu, F., Wang, X., 2015. Progressive muscle relaxation improves anxiety and depression of pulmonary arterial hypertension patients. Evidence-Based Complementary and Alternative Medicine 2015.

Merikangas, K.R., Mehta, R.L., Molnar, B.E., Walters, E.E., Swendsen, J.D., Aguilar-Gaziola, S., Bijl, R., Borges, G., Caraveo-Anduaga, J.J., Dewit, D.J., 1998. Comorbidity of substance use disorders with mood and anxiety disorders: results of the International Consortium in Psychiatric Epidemiology. Addictive behaviors 23(6), 893-907.

Molassiotis, A., 2000. A pilot study of the use of progressive muscle relaxation training in the management of post-chemotherapy nausea and vomiting. European Journal of Cancer Care 9(4), 230-234.

Organization, W.H., 2010. Global strategy to reduce the harmful use of alcohol.

Parkar, S.R., Fernandes, J., Weiss, M.G., 2003. Contextualizing mental health: Gendered experiences in a Mumbai slum. Anthropology & Medicine 10(3), 291-308.

Pawlow, L.A., Jones, G.E., 2002. The impact of abbreviated progressive muscle relaxation on salivary cortisol. Biological psychology 60(1), 1-16.

Quigley, B.M., Leonard, K.E., 2000. Alcohol and the continuation of early marital aggression. Alcoholism: Clinical and Experimental Research 24(7), 1003-1010.

Sharma, V.K., Trakroo, M., Subramaniam, V., Rajajeyakumar, M., Bhavanani, A.B., Sahai, A., 2013. Effect of fast and slow pranayama on perceived stress and cardiovascular parameters in young health-care students. International journal of yoga 6(2), 104.

Singh, V.P., Rao, V., RC, S., 2009. Comparison of the effectiveness of music and progressive muscle relaxation for anxiety in COPD—a randomized controlled pilot study. Chronic respiratory disease 6(4), 209-216.

To, M.Y.F., Chan, S., 2000. Evaluating the effectiveness of progressive muscle relaxation in reducing the aggressive behaviors of mentally handicapped patients. Archives of Psychiatric Nursing 14(1), 39-46.

Varma, D., Chandra, P.S., Thomas, T., Carey, M.P., 2007. Intimate partner violence and sexual coercion among pregnant women in India: relationship with depression and post-traumatic stress disorder. Journal of affective disorders 102(1-3), 227-235.

Varvogli, L., Darviri, C., 2011. Stress Management Techniques: evidence-based procedures that reduce stress and promote health. Health science journal 5(2), 74.

Acknowledgements

Mrs Kiran Srivastava is highly thankful for the financial assistance in terms of "Seed Money Grant/Start-Up Grant" provided by the AIBAS, Lucknow, Uttar Pradesh.

Conflict of Interest
The author declared no conflict of interest.

How to cite this article: R Rashid & K Srivastava (2020). Effectiveness of progressive muscle relaxation training on aggression among the individuals with alcohol dependence. *International Journal of Indian Psychology*, *8*(2), 226-237. DIP:18.01.027/20200802, DOI:10.25215/0802.027