Effect of Guided Imagery on Stress Level and Lifestyle Among Alcoholics: A Quantitative Study

Author: Dr. Nisha. S. Naik[1], Dr. D. Saldahna [2], Dr. Anuradha. N. Mhaske[3],
[1] Professor, Dr.D.Y.Patil College of Nursing, Dr. D.Y.Patil University, Pune , Maharashtra
[2] HOD and Professor of Psychiatry, Dr.D.Y.Patil Medical College, Hospital and research centre, Dr. D.Y.Patil University, Pune, Maharashtra
[3] Principal, MGM College of Nursing, MGM University, Aurangabad, Maharashtra

Abstract
Background: Harmful use and alcohol abuse are patterns of drinking and are defined as disorders in the International Classification of Diseases (ICD-10) and in the Diagnostic and Statistical Manual Disorders (DSM-IV) (Ranjan Jinu, 2009) . Alcohol use contributes to physical or psychological harm.
Objectives: To assess the effect of guided imagery on stress and lifestyle among alcoholics and to find correlation with stress and lifestyle.
Method: An experimental study including population of 200 alcoholics admitted in de-addiction center out of which 100 in experimental group and 100 in control group. Probability simple random sampling technique was used. Data was collected in 2013 using self-administered sociodemographic questionnaire and rating scales on stress and lifestyle. Guided imagery was effectively administered for seven days on experimental group and taken posttests 1, 2, 3, 4, 5, 6, 7 at 7th day, 2week, 3 week, 4th week, 8th week, 16th week and 24th week.
Results: The majority of participants reported of stress and that lead to alcoholism. Alcoholism also troubled Physical, Physiological, spiritual, social, financial dimensions of mental health and increased stress. Stress level hampered living style. Working with guided imagery participants reported relaxation, diversion and orientation to responsibilities. The change in stress scores and lifestyle scores for experimental group was significantly higher than that for control group. Guided imagery has helped to relieve stress and improve lifestyle.
Conclusion: When combined with support and guided imagery, Guided imagery is proved effective in reducing the stress level and improving life style remarkably.

KEYWORDS: Guided imagery, stress level, lifestyle, de-addiction centers, alcoholics.

1 INTRODUCTION

In a world with population 6,909 billion out of which 60.3% is shared by Asia and India is the second largest in the world with 24 billion. Maharashtra contributes 96,752,247 and Pune's population is 33, 37,481. As Alcohol is common among people 15.1 million are alcoholic population and India is 10% of total alcoholic population and Maharashtra ranks highest with 6.9% alcoholics (WHO report, 2010). With respect to occupational stress, men in positions combining little freedom to fulfill their job obligations (low job attitude) and high job demands reported the highest (80%) drinking levels and alcohol-related problems (Seeman and Seeman, 2008). The study on "Guided imagery on stress and alcoholism" states that high strain jobs among 500 had higher risk of alcoholism. 78% had low consumption of alcohol after relaxation. Researchers find that these techniques work because imagery relaxes the body in terms of physical, financial, spiritual, social, emotional and mental health (Crum, 2008).

In this study, established the hypothesis that guided imagery has significant effect in reducing stress and improving lifestyle and also would be associated with age, marital status, period after marriage, spouse alive, educational status of alcoholics, educational status of spouse, occupation, number of children, size of family, phase of alcoholism, family income in rupees and duration of alcohol addiction. The results of this study may offer guidance to coping strategy towards stress, practice in guided imagery in all aspects and improving lifestyle of all alcoholics.

1.1 Aim of the study

To help alcoholics to cope with stress and improve lifestyle using guided imagery and relieve alcoholism.

1.2 Objectives of the study:

1. To assess the stress level and lifestyle in pre-test and post-test among alcoholics admitted in de-addiction centers in experimental group and control group.
2. To assess the effect of guided imagery on stress level and lifestyle among alcoholics admitted in de-addiction centers in experimental group.
3. To compare pre-test and post –test stress level and lifestyle among alcoholics admitted in de-addiction centers in experimental group and control group.
4. To find association of demographic variables with stress level and lifestyle among alcoholics admitted in de-addiction centers in experimental group and control group.

2 METHODS

The research design adopted for study was Quasi experimental two group design with simple random sampling technique. The population of the present study comprises alcoholics admitted in de-addiction centers.

2.1 Setting

The setting for this study was the de-addiction centers that are situated in Pune city. De-addiction centers that is alcohol rehabilitation center which admits alcoholic clients from all over India. De-addiction center is situated in center of the city. The city is located as one of the main metro city of the state of Maharashtra- India and has an area approximately 331.3km^2 and demographic density of 5,600 inhabitants per km^2. The estimated population in 2018 corresponds to 6.772 inhabitants, predominantly lived in urban areas.

But clients admitted here are from all over India and sometimes abroad. Here patients can reach by any means of transport. This de-addiction centre caters with appoximately 100 beds with both male and female addicted clients. Client has to stay in de-addiction center for 35 days compulsorily and in addition if willing. The client is provide care like group therapy, counseling, visit by psychiatrist , exercise, family counseling and spouse counseling. It also has Day care centre and alcoholic anonymous group who stay in this de-addiction centre. It also provides with recreational activities, reading newspaper and conduct prayers.

2.2 Participants

The estimated sample size for the alcoholics is determined largely by three factors:

i) The estimated prevalence (P) of variable – Maharashtra contributes 96,752,247 and Pune's population is 33, 37,481. Pune shares 10% of alcoholics from total population of Pune district.[6].

ii) The desired level of confidence – for this study taken as 95%.

iii) Absolute precision / acceptable error (E) 04%.

Sample size determination (n) = $Z_{1-\alpha/2}^2$ p q/ d^2

Therefore the sample size for alcoholics in this study was taken as 200 who fulfilled the criteria. 100 for experimental group and 100 for control group those who are admitted in de-addiction centers who were eligible with inclusion criteria like alcoholics admitted in selected de-addiction centers and male admitted alcoholics. Exclusion criteria was female admitted alcoholics. Thus utilized two group design with simple random sampling technique. The population of the present study comprises alcoholics admitted in de-addiction centers.

2.3 Procedure

Initially, a list of clients in the second week of their admission with no withdrawals at the study sites was obtained. All listed clients who were chosen with randomization were assessed confidentially, individually and privately to participate voluntarily in the study. These selections were made while researcher was visiting the study site. Therapy was given every day at same time of the day on different days (see Table 1).

Eligible participants were assessed for stress with lifestyle and given Guided imagery. Participants were informed about the development of the study and provided written informed consent.

The instruments were printed on paper for data collection. the alcoholic admitted clients completed the questionnaires during sessions with the researcher at the de-addiction center. The perceived stress scale (PSS) is a classic stress assessment (cohen, 1994) was referred by researcher and prepared alcoholic stress scale. Questionnaires created by author to capture sociodemographic data were self –administered. Approximately 15mins were required to complete the questionnaires and 30minutes for procedure.

The period of data collection were defined using input from the participants to avoid hindering the activities carried out in the study site. Data collection occurred during the period from April to October 2013 following consent from and approval by the Research Ethics Committee.

Table 1: Table representation of days of data collection:

1.	**Pre-Intervention or baseline data: Day 1**	**1st day Demographic data (section I), Stress scale (section II), lifestyle (section IV) was collected from subjects.**
2.	**Intervention Day: Day 1,2,3,4,5,6,and 7**	**The subjects were grouped into two groups using simple random sampling. Total sample size 200. Group I: control for four weeks. 25 in each week, sample size 100 (25*4) Group II: Experimental for four weeks. 25 subject per week, sample size 100. Guided Imagery intervention was given for seven days.**
3.	**Post intervention data from 7th day**	**on 7th day, 2nd week, 3rd week, 4th week, 8th week, 16th week and 24th week collected data for section II and Section III in both experimental and control groups.**

2.4 Measures

2.4.1 Sociodemographic characteristics

Investigator collected the following demographic information from: age, marital status, Period after marriage, spouse alive, Educational status of alcoholic, Educational status of spouse, Occupation, Family income, Source of income, Type of family, size of the family, Dependent members, Number of children, Phases of alcoholism Duration of Alcoholism, Number of admission in de-addiction center were collected via a structured, self-administered questionnaire.

2.4.2 Stress and lifestyle questionnaire.

Investigator refered perceived stress scale (PSS), a classic stress assessment(Sheldon Cohen, 1994) is modified to a five point likert scale that consists six aspects of health areas like physical, financial, spiritual, social, emotional and mental.

The stress scale consisted 05 items in each aspect with five point likert scale ranging from “never” to one end to “very often” to other. The respondants are asked to tick one point on the scale that best reflected their opinions, feelings or reactions.

The stress scale is marked against never-0, almost never-1, sometimes-2, fairly often-3, very often-4. Highest (maximum) score is 120 and lowest- (minimum) score is 30. Scoring: 0-40 low stress, 41-80 moderate stress and 81-120 severe stress.

Investigator also prepared dichotomous questionnaire on lifestyle. The lifestyle questionnaire also consisted 05 items in each aspect with "yes or No" response scoring one or zero. close ended questionnaires on lifestyle was prepared in areas like physical care, physiological care, emotional care, social care, occupational care, spiritual care and cultural care with Highest (maximum) score is 35 and lowest- (minimum) score is 00. The profile of guided imagery was also supported to these questionnaire with observational checklist.

2.5 Statistical analysis

The data obtained from the questionnaire printed on paper were double-entered into Microsoft Excel. Discrepancies between data were solved by checking out the printed questionnaires. Later, imported them into Statistical Package for the Social Science software(SPSS).

within the study analyses, stress and lifestyle scores were the dependent variables and the independent variables were age, marital status, Period after marriage, spouse alive, Educational status of alcoholic, Educational status of spouse, Occupation, Family income, Source of income, Type of family, size of the family, Dependent members, Number of children, Phases of alcoholism Duration of Alcoholism, Number of admission in de-addiction center.

Investigator used nonparametric tests for the data analysis because_____

2.6 Ethics issues

The study began after receiving approved from the Research Ethical Committee. The permission was taken from authority of research site for data collections. The informed consent was taken from participants prior to their inclusion in the study. Investigator ensured the participants that confidentiality would be preserved, they were free to refuse participating in the study, no remuneration to participate and are free to withdraw from the participation in the study at any time without suffering any prejudice. The researcher did not have a work relationship or managerial role at the study sites.

3 RESULTS and DISCUSSION

3.1 Sample characteristics

The data presented in demographic indicates that in experimental group, maximum (46%) alcoholics and in control group maximum (37%) alcoholics were from age group 31-40 years. It is observed that maximum Majority (82%) in experimental group were married where as in control group maximum (96%) of them were married. Education of participants in experimental group maximum (42%) of them are with higher secondary education similarly in control group also maximum (57%) of them are having higher secondary education. Even regarding educational status of spouse of participant's maximum(57%) in experimental group and 49% in control group are with higher secondary education. Maximum (65%) alcoholics in experimental group and maximum (77%) alcoholics in control group are in service. Those who are unemployed may be job is the stress factor and to rest alcoholics those in service handling work stress might be the stress factor. Majority (46%) in experimental group, alcoholic's income is around RS.5000-15000, In control group, majority (65%) around RS.5000-15000 income. 12% in both experimental group and control group are below poverty line. Finance is the essential factor to relieve stress and have standard of living. Approximate 3-12% earns with little higher income but more than 50% are earning less.

Majority (68%) in experimental group and in control group majority (70%) of alcoholics' income is through service. Majority (38%) in experimental group and 49% in control group have two children. Maximum (73%) in experimental group and maximum (67%) in control group are in nuclear family. Participants also live in joint family 19% in experimental group and 30% in control group. Maximum (80%) are in moderate phase of alcoholism where as majority (60%) are addicted since six to ten years but maximum (86%) are admitted only once in de-addiction center in experimental group similarly in control group maximum (57%) are in moderate phase of alcoholism with majority (64%) are addicted since six to ten years and again maximum (78%) alcoholics are admitted only once.

3.2 The stress level and Lifestyle in pretest and post tests in both study groups.

Table- 2: Comparative percentage distribution of stress level and Lifestyle in pretest and post tests among alcoholics in experimental and control groups.

N=200

SN	ALCOHOLICS	PRETEST		POST TESTS													
				1		2		3		4		5		6		7	
I	**STRESS LEVEL**	F	%	F	%	F	%	F	%	F	%	F	%	F	%	F	%
A.	**EXPERIMENTAL GROUP (N=100)**																
1	Low Stress (0-40)	4	4	8	8	10	10	31	31	43	43	57	57	78	78	87	87
2	Moderate stress (41-80)	30	30	67	67	80	80	65	65	51	51	36	36	22	22	11	11
3	Severe stress (81-120)	66	66	25	25	10	10	4	4	6	6	7	7	00	00	02	02
B.	**CONTROL GROUP (N=100)**																
1	Low Stress (0-40)	00	00	01	01	02	02	03	03	04	04	04	04	01	01	01	01
2	Moderate stress (41-80)	34	34	62	62	95	95	75	75	73	73	83	83	99	99	91	91
3	Severe stress (81-120)	66	66	37	37	03	03	22	22	23	23	13	13	00	00	08	08
II	**LIFE STYLE**																
A.	**EXPERIMENTAL GROUP (N=100)**																
1	Average lifestyle (0-11)	68	68	07	07	01	01	00	00	00	00	00	00	00	00	00	00
2	Good change (12-23)	30	30	43	43	34	34	22	22	14	14	12	12	03	03	03	03
3	Very good change (24-35)	02	02	50	50	65	65	78	78	86	86	88	88	97	97	97	97
B.	**CONTROL GROUP (N=100)**																
1	Average lifestyle (0-11)	62	62	48	48	30	30	33	33	33	33	29	29	32	32	28	28
2	Good change (12-23)	36	36	49	49	69	69	64	64	63	63	68	68	64	64	66	66
3	Very good change (24-35)	02	02	03	03	01	01	03	03	04	04	03	03	04	04	06	06

The table shows that stress level in Pretest (66%) severe stress in experimental and control group and by post test VII low stress (87%) in experimental group and (91%) in control group. In lifestyle prestest average lifestyle (68%) in experimental and (62%) in control group where as in Post test VII very good change (97%) in experimental group and good change (66%) in control group.

3.3 **Profile of Guided imagery on intervention group**

Table 3: Comparative mean of guided imagery effect on stress level and Life style among alcoholics in experimental group.

N-100

S.N.	)HOLICS WITH GUIDED IMAGERY			Calculated 't' Value	d.f	'P' Value
	Stress level	Mean	S.D			
1	Pretest	84.2	20.0	-	-	-
2	Posttest 1	67.2	18.4	7.9	99	0.001***
3	Posttest 2	61.9	15.2	10.9	99	0.001***
4	Posttest 3	52.2	15.7	11.8	99	0.001***
5	Posttest 4	46.9	18.4	12.1	99	0.001***
6	Posttest 5	44.7	17.5	13.7	99	0.001***
7	Posttest 6	36.7	13.4	18.0	99	0.001***
8	Posttest 7	33.7	12.9	19.1	99	0.001***
Life style						
1	Pretest	10.7	5.0	-	-	-
2	Posttest 1	22.5	7.5	14.5	99	0.001***
3	Posttest 2	26.4	6.3	20.5	99	0.001***
4	Posttest 3	28.3	5.3	25.4	99	0.001***
5	Posttest 4	30.5	4.5	30.8	99	0.001***
6	Posttest 5	31.5	4.3	30.6	99	0.001***
7	Posttest 6	33.4	3.0	41.1	99	0.001***
8	Posttest 7	33.8	2.6	43.1	99	0.001***

*** P less than 0.001 very highly significant.

The data indicates that the stress level and lifestyle scores of alcoholics admitted in de-addiction centers in pretest and posttest were compared using paired t-test. Average stress score of experimental group in pretest is 84.2 with standard deviation of 20. Similarly average lifestyle score of experimental group in pretest was found to be 10.7 with standard deviation of 5. The average stress level scores reduced consistently over posttest 1 to Posttest 7. The t-values were 7.9, 10.9, 11.8, 12.1, 13.7, 18 and 19.1 at 99 degrees of freedom. Whereas the average lifestyle score increased consistently over posttest 1 to posttest 7. The t-values were 14.5, 20.5, 25.4, 30.8, 30.6, 41.1 and 43.1 at 99 degrees of freedom. The corresponding $p < 0.001$ in both stress level as well as life style.

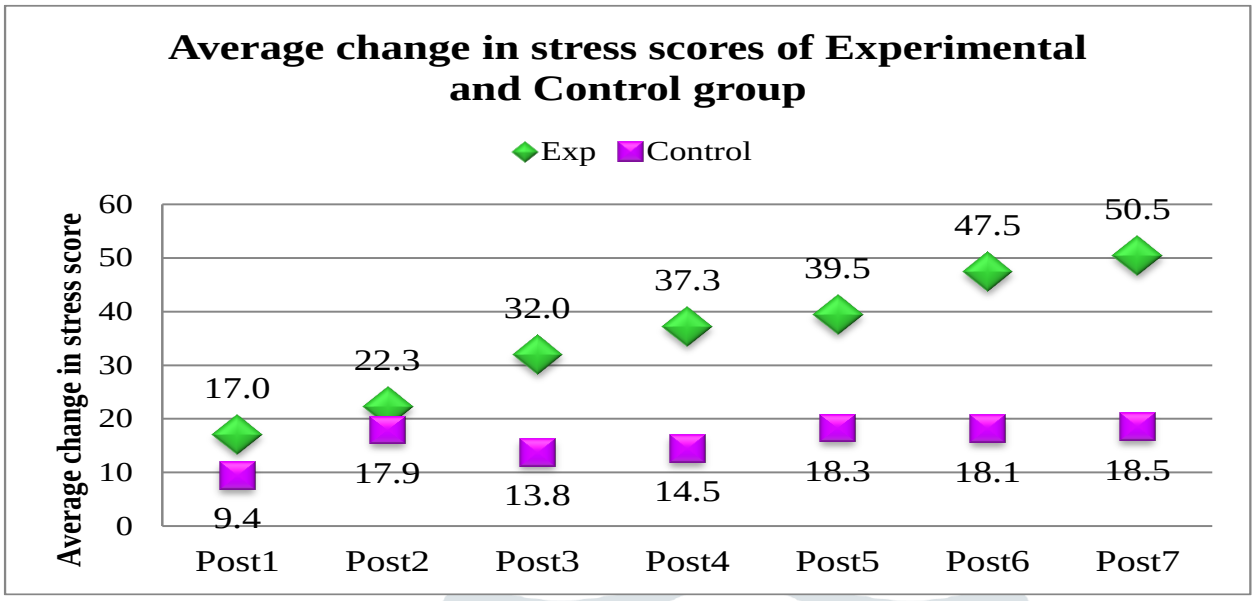

Figure: 1: Scattered graph showing mean of pre-test and post –test of stress level among alcoholics admitted in experimental group and control group.

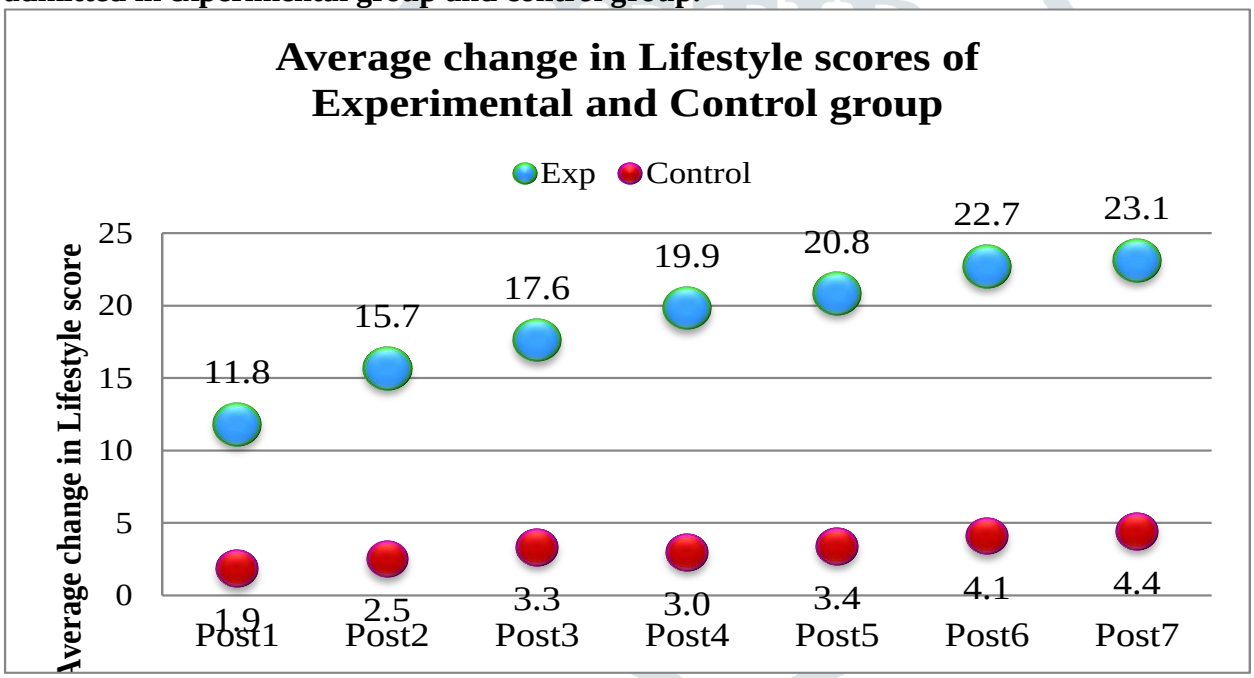

Figure: 2: Scattered graph showing mean of pre-test and post –test of lifestyle among alcoholics admitted in experimental group and control group.

Demographic variables like *age, marital status, period after marriage, spouse alive, educational status of alcoholics, educational status of spouse, occupation, number of children, size of family, phase of alcoholism* and *duration of alcohol addiction* at $p< 0.05$ were found to have significant association with level of stress among alcoholic admitted in de-addiction centers. Demographic variables like *family income in rupees, source of income, source of dependent, dependent members to client, type of family* and *number of admissions in de-addiction center* were found to have no significant association with level of stress among alcoholic admitted in de-addiction centers as $p >0.05$.

Demographic variable like *family income in rupees* was found to have significant association at $p< 0.05$ with lifestyle among alcoholic admitted in de-addiction centers. Income was associated with lifestyle was found and may be to maintain with good standard of living finance is major aspect.

Demographic variables *age, marital status, period after marriage, spouse alive, educational status of alcoholics, educational status of spouse, occupation, source of income, source of dependent, dependent members to client, number of children, type of family, size of family, phases of alcoholism, duration of alcoholism* and

number of admission in de-addiction centers were found to have no significant association with lifestyle among alcoholic admitted in de-addiction center.

3.4 DISCUSSION

The data presented in the study also indicates that association of stress level with demographic variables. It may be due to 50% alcoholics admitted in de-addiction is around 31-40 years with 95% married and more than 50% are married between month to 20years. 95% are living spouse and having at least maximum education of alcoholic and their spouse with higher secondary education. Maximum has service as well as two children with 2-3 members in the family. With this all personal profile 80% drink at moderate phase since six to ten years and 80% admitted only once can be the reason for association, as in experimental and control group maximum are found in severe stress and moderate stress in pretest and posttests. This is accordance to a study conducted by Goldstein. Supportive resources of spouse, family, friends, and church reduced excessive drinking in response to life-events **(**Goldstein & et.al, 2009).

The data presented in the study also indicates that physical stress is maximum (71%), Financial stress (69%) , Spiritual stress (69%) social stress (64%) in pretest in experimental group. In control group physical stress (58%), financial stress (73%), spiritual stress (77%), social stress (60%). Emotional stress is maximum (74%) Here also with mental stress it is similar like other areas of stress but guided imagery has drastically reduced stress to low level from 10% alcoholics to 88% alcoholics. A study conducted by Blume mentions alcohol consumption was in frequently used by those sampled as a means of coping with the resulting stress (Blume,2010) .

The data related to physical care in lifestyle has good change maximum (39%) in pretest in experimental group and in control group (89%) need to change to good lifestyle. The physiological care in lifestyle has very good change maximum (46%) in pretest in experimental group as well as in control group (50%). In control group lifestyle under cultural care in posttest VII (48%) showed very good change in cultural care. Here also in experimental group it showed very good change in cultural care which is in relation to alcoholics behaviour with others. When alcohol is away mental stress is stable and individual is able to think right and behave well. Guided imagery has shown changes to reduced stress and good lifestyle. Similar findings were reported in study conducted by Carter. Most commonly the *first* benefits people noticed were increased relaxation, decreased negative thoughts, and decreased stress (Carter Elizabeth, 2006).

The corresponding $p< 0.001$ in both stress level as well as life style. The guided imagery is proved significantly effective in improving the stress level of the alcoholics. But also found that in control group also in all areas stress reduced to moderate level and it can be due to limitation that study did not have control over the treatment of de-addiction center. Researcher Cooney reported urge to drink during the trial that combined negative mood imagery with alcoholic beverage exposure predicted time to relapse after inpatient discharge (Cooney & et.al, 2012).

Similarly the data presented in the study indicates that lifestyle scores of alcoholics admitted in de-addiction centers in pretest and posttest were compared using paired t-test. The corresponding $p< 0.001$ in life style. Guided imagery reduced the stress level and increased lifestyle score of the alcoholics admitted in the de-addiction centers was highly significant. The guided imagery is proved significantly effective in improving the lifestyle of the alcoholics.

4 CONCLUSION:

Stress is usually thought as harmful. Under chronic stress, however, when the body either fails to compensate or when it overcompensates, damage can occur. Alcoholism can cause damage to the mind and body**.** The study on effect of guided imagery on stress level and lifestyle among alcoholics admitted in de-addiction centers was conducted on 200 male samples in de-addiction center at Pune city and on analysis found that the change in stress scores and lifestyle scores for experimental group was significantly higher than that for control group. Guided imagery is proved effective in reducing the stress level and improving life style remarkably.

5 LIMITATIONS

One limitations was this research was that it did not have control over the treatment of de-addiction center. Findings may be generalized only to de-addiction center admitted clients. Study was conducted on only male alcoholics admitted in de-addiction center were included in the study. study limited to one de-addiction center to avoid intervention bias.

6 IMPLICATIONS FOR MENTAL HEALTH NURSING

This study elobrated that Mental health nurses must assess the stress of alcoholics, meet their family members, motivate their children's and other members to take part in sharing their problems, understanding their needs and problems, fulfilling the essential needs and make them feel that they lived a satisfied life. Should teach various alternative therapies within their reach. They can work with social workers, clinical psychologist and help the alcoholics towards promotion of emotional health, prevention or early detection as well as rehabilitation. Family welfare agencies with trained social workers through home visits; help the alcoholics and their families, understand the nature of the environment which they live.

Alcoholics due to systemic effects of alcohol not only suffer themselves but make their families suffer. The nursing care to alcoholics is increasingly acknowledged as a nursing specialty requiring specific professional knowledge, skills and expertise.

Emphasis should be laid on Guidance and Counseling services. Formulation and development of curriculum should emphasis on alternative medicine for better mental health under alcohol abuse. Working staff for stress reduction also need to introduce to relaxation therapies, imagery to reduce stress and change living style in positive way.

Government could provide economic help to all alcoholics and their families by giving some self help work and some form of employment who has lost job to those who have planned to keep self away from alcoholism to improve their life. This will reduce their financial stress and will give way to change to good lifestyle. Student nurses of diploma degree and graduate level must be posted in de-addiction centers to understand and make a way to solve the problem, understand the alcohol crisis process. Every citizen should be made aware of their duty to identify the problems due to alcoholism and help them go through the changes in a healthy way.

7 RELEVANCE STATEMENT

General public, families as well as alcoholics need to be motivated to avoid social crutches like alcohol during stress through health education. This study provides important insight in all area of stress in life and helps to understand the importance of standard of living with improved lifestyle.

8 Acknowledgement: This article is author's Ph.D awarded work, so author acknowledges Guide Dr.Mrs.Anuradha Maskhe, Co-guide Dr. Daniel Saldanha and Dr.D.Y.Patil Vidyapeeth, Pune for their constant support and guidance, also thankful to participants for their co-operation.

9 Source Funding: Nil

10 Conflict of Interest

The author declared no conflicts interest with respect to the authorship and/or publication of this paper.

REFERENCES:

1. American psychological association, Diagnostic and statistical manual of mental disorder, 4th edition, Washington, DC, 1997, pp: 20 -42.
2. Blume, Military Medicine, Stresss and alcohol use among soldiers assessed at mobilization and demobilization, 2010, June, 12(5): 22-24.
3. Carter Elizabeth, Pre-packaged guided imagery for stress reduction: Initial results, 2006, July, 2(2) :27-39.
4. Cooney, Ned L., Litt, Mark D., Bauer, Lance O., Gaupp, Larry,Alcohol related stimuli and induced negative moods, Journal of Abnormal Psychology, American Psychological Association, 2012, Vol 106(2): 243-250
5. Crum, "Guided Imagery on stress and alcoholism", National medical research agency,US, 2008.
6. Goldstein, A.L., &Flett, G.L, Personality, Alcohol Use, and Drinking Motives: A Comparison of Independent and Combined Internal Drinking Motives Groups. Behavior Modification, 2009, 33 (2), pp: 182-198.
7. Ranjan Jinu, Nightingale Nursing Times, Effect of Alcoholism on Adolescent boys, 2009, September, 5(6) :45-47.
8. Seeman and Seeman, Drug and alcohol rehabilitation, Stress and the Development of Alcoholism,National Institute of health, US, 2008, p: 33
9. Sheldon Cohen, Percervied stress scale, Psychological assessment, Mind Garden, 1994.
10. World Health Organisation , WHO Global Status Report on Alcohol. Geneva, 2004
11. WHO "World Health Organization census report" Delhi, 2010.