
Significance of Homoeopathic Medicines in Post Traumatic Stress Disorder (PTSD) in Road Traffic Accident (RTA) survivors; Experimental, nonrandomized, uncontrolled study

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ABSTRACT:-

Background: Post traumatic stress disorder (PTSD) is a debilitating mental health condition that can develop in individuals who have experienced or witnessed traumatic events, such as road traffic accidents (RTAs). This research article explores the significant role of homeopathy in the management and treatment of PTSD among RTA survivors. PTSD is characterized by a complex interplay of symptoms, including intrusive thoughts, nightmares, hyperarousal, and emotional numbing, often leading to impaired functioning and a diminished quality of life. **Objectives:** 1st objective was to evaluate the role of homoeopathic medicines in treating the cases of post traumatic stress disorder in road traffic accident survivors and 2nd objective was to find out the most commonest indicated homoeopathic medicines in treating cases of PTSD in RTA survivors.

Methods: This was an experimental, nonrandomized, uncontrolled study which was carried out on the participants who have been diagnosed with PTSD after RTA. A structured questionnaire regarding symptoms of PTSD was filled out by participants. Participants of any gender and of any age were included and participants with grave pathology and suffering from any mental disease were excluded. Paired t-test was applied to measure the PTSD checklist for DSM-5 (PCL-5) with Life Events Checklist for DSM-5 (lec-5) and Criteria A Part 3 scale score.

Results: 50 participants took part in the study. 94% (n=47) showed improvement and 6% (n=3) showed no improvement. 94%(n=47) participants noticed considerable changes in their health condition after taking homoeopathy and after following advice given to them and 6% (n=3) didn't notice any change. After applying the paired t-test the calculated t value came to be as 12.97 which is greater than table t-value that came as 2.01 and the two tailed p value came less than 0.0001, by conventional criteria, this difference is considered to be extremely significant.

Conclusion: According to above result we conclude that Homoeopathic Medicines in Post-Traumatic Stress Disorder (PTSD) in Road Traffic Accident (RTA) Survivors are Effective.

Keywords: Homoeopathic indicated medicines, Post traumatic stress disorder, road traffic accident.

INTRODUCTION:-

Road Traffic Accidents (RTA) is one of the leading cause of death, disabilities and needs hospitalization of people worldwide but is more prevalent in India⁽¹⁾. People who survive in the road traffic accident may sometime suffer from Post-Traumatic Stress

Disorder (PTSD). Mental and emotional trauma in serious road traffic accident is one of the important component of Post-Traumatic Stress Disorder (PTSD)⁽²⁾.

Symptoms of Post-Traumatic Stress Disorder include fear, excessive anxiety, stress, insomnia, nightmares, disturbing memories, which may be painful, frightening, tragic, or guilt ridden at the same time sensory perceptions such as taste, smell or even feelings can trigger the mental and physical distress⁽³⁾, irritability, increased reactivity, increased startle response, hypervigilance, problems with concentration⁽⁴⁾. SNRIs [Serotonin norepinephrine reuptake inhibitors] and SSRIs [Selective serotonin reuptake inhibitors] are the first line of treatment in Post-Traumatic Stress Disorder⁽⁵⁾ and accordingly patients show some side effects as feeling of being sick, constipation or diarrhoea, headache, etc. More than 50 million people worldwide experience trauma through Road Traffic Accidents (RTA) yearly, and by the year 2020, the injuries caused due to Road Traffic Accidents will be the 3rd most leading cause for the disability⁽⁶⁾. The prevalence of PTSD in RTA survivors vary from region to region and by race, gender, and education level⁽⁶⁾. Prevalence of traumatic events in the lives of human ranges from 61% to 80 %⁽⁴⁾. The higher incidence of Post-Traumatic Stress Disorder after RTA is seen in women 4 times more than men and in young age, no employment, less educational status, low socio-economic class⁽⁴⁾⁽⁷⁾⁽⁸⁾.

In Road Traffic Accidents (RTA) survivors, physical traumas and injuries are healed but the mental trauma still prevails, and it hampers the quality of life of the trauma survivors. Therefore, it is the need of an era that the patients suffering from Post-Traumatic Stress Disorder (PTSD) in Road Traffic Accidents (RTA) survivors should get Homoeopathic Medicines as homoeopathy being the most gentle and rapid healing art, and hence is effective in curing this condition⁽⁹⁾, so that the quality of life of patients will be improved⁽¹⁰⁾. Till now the research on the homoeopathic treatment for PTSD in RTA survivors in India are very few. A research article by name Managing post traumatic stress disorder with homoeopathy: A case report was published by Dr. Priya Singh, Ankit Banerjee and Dr. Kathika Chattopadhyay⁽⁸⁾. Another article by name Post-Traumatic Stress Disorder (PTSD) And Homoeopathy was published by Dr. Sheela Dandge, Dr. Kirtida Desai⁽⁹⁾. A very few researches have been done on PTSD in RTA survivors in Homoeopathy. So, through this study, we are hoping to understand the efficacy of Homoeopathic remedies in cases of PTSD in RTA survivors. There is evidence that the CAM treatment has been effective in development of autonomic regulation in individuals with PTSD⁽¹⁰⁾. CAM practices such as mindfulness meditation, have been indicated in some conventional psychotherapy.

Homoeopathic approach in PTSD is given in Aphorism 210 to 230 that is treatment of the so-called mental or emotional diseases. Diet and regimen is given in Aphorism 259 to 261⁽¹¹⁾. Most commonly prescribed medicines that were found in

treating cases of PTSD were Arsenic Album, Aconite Napellus, Argentum Nitricum, Stramonium, Lysinum, Aurum Metallicum⁽¹²⁾⁽¹³⁾⁽¹⁴⁾⁽¹⁵⁾⁽¹⁶⁾⁽¹⁷⁾.

Methods Study setting, participants and design:-

This Experimental, nonrandomized, uncontrolled study was carried out for 6 months at M(N)HMC OPD and Peripheral opd. From M(N)HMC OPD (n=8) were enrolled I study, from peripheral opd (n=42) were enrolled. The participants who suffered from PTSD and were enrolled in the treatment for at least 6 months and gave informed written consent were included. The study protocol and questionnaire were approved by the Institutional Ethical Committee of Motiwala (National) Homoeopathic Medical College. All study participants gave informed written consent.

Data collection:-

A survey was conducted where a questionnaire was given to the participants. After survey participants were diagnosed with the help of DSM – 5 Criteria for PTSD⁽¹⁹⁾. Written consent was taken from the participants. After diagnosing the cases, 50 participants were taken as a sample size and the study was conducted. Further case taking was done according to case record format. Before intervention PTSD checklist for DSM-5 (PCL-5) with Life Events Checklist for DSM-5 (lec- 5) and Criteria A Part 3⁽¹⁸⁾ was filled by the participants, during each follow the scale was given to participants. Before and after scale score was compared at the end of 6th follow up. Paired t- test was used for calculating result.

Sample Size:-

Sample size was 50 and was selected on the basis of inclusion and exclusion criteria. Inclusion criteria was – 1) Patients who are accident survivors and are suffering from Post-Traumatic Stress Disorder. 2) Patients of all ages and both the sexes. 3) Use of PTSD checklist for DSM-5 (PCL-5) with Life Events Checklist for DSM-5 (lec- 5) and Criteria A Part 3 before intervention, patients whose scale score was more than 31-33 were included⁽⁵⁾.

Exclusion criteria was – 1) Patients who had grave pathology with severe injuries.
2) Patients who were having any mental disorder and are taking treatment for the same.

RESULT AND STATISTICAL ANALYSIS:

Table: 2 CALCULATIONS

Sr.no	X ₁ (Before intervention)	X ₂ (After Intervention)	d	(d – d bar)	(d – d bar) square
1)	48	54	-6	-39.4	1552.36
2)	38	10	28	-5.4	29.16
3)	48	16	32	-1.4	1.96

4)	55	60	-5	-38.4	1474.56
5)	48	12	36	2.6	6.76
6)	65	27	38	4.6	21.16
7)	48	15	33	-0.1	0.01
8)	52	14	38	4.6	21.16
9)	71	72	-1	34.4	1183.36
10)	66	25	41	7.6	57.76
11)	59	18	41	7.6	57.76
12)	47	15	32	-1.4	1.21
13)	66	24	42	8.6	73.96
14)	50	10	40	6.6	43.56
15)	58	20	38	4.6	21.16
16)	54	13	41	7.6	57.76
17)	55	25	30	-3.4	11.6
18)	49	12	37	3.6	12.96
19)	51	10	41	7.6	57.76
20)	61	24	37	3.6	12.96
21)	53	21	32	-1.4	1.96
22)	53	26	27	-6.4	40.96
23)	52	18	34	0.6	0.36
24)	58	20	38	4.6	21.16
25)	60	25	35	1.6	2.56
26)	59	21	38	4.6	21.06
27)	55	23	32	-1.4	1.21
28)	60	28	32	-1.4	1.21
29)	55	14	41	7.6	57.76
30)	51	12	39	5.6	31.36
31)	62	20	42	8.6	73.96
32)	58	18	40	6.6	43.56
33)	63	26	37	3.6	12.96
34)	57	15	42	8.6	73.96
35)	55	19	36	2.6	6.76
36)	57	16	41	7.6	57.76
37)	62	19	43	9.6	92.16
38)	65	29	36	2.6	6.76
39)	57	16	41	7.6	57.76
40)	67	28	39	5.6	31.36
41)	38	10	28	-5.4	29.16
42)	47	12	35	1.6	2.56
43)	54	17	37	3.6	12.96
44)	45	12	33	-0.4	0.16
45)	40	9	31	-2.4	5.76
46)	38	11	27	-6.4	40.96
47)	38	14	24	-9.4	88.36
48)	42	20	22	-11.4	129.96
49)	56	18	38	4.6	21.16
50)	62	25	37	3.6	12.96
			d = 1670		

			D(bar) 33.4	=		5679.6
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DATA ANALYSIS:

For data analysis excel sheet is used. For testing the hypothesis Paired t test is applied.

Intermediate values used in calculation:

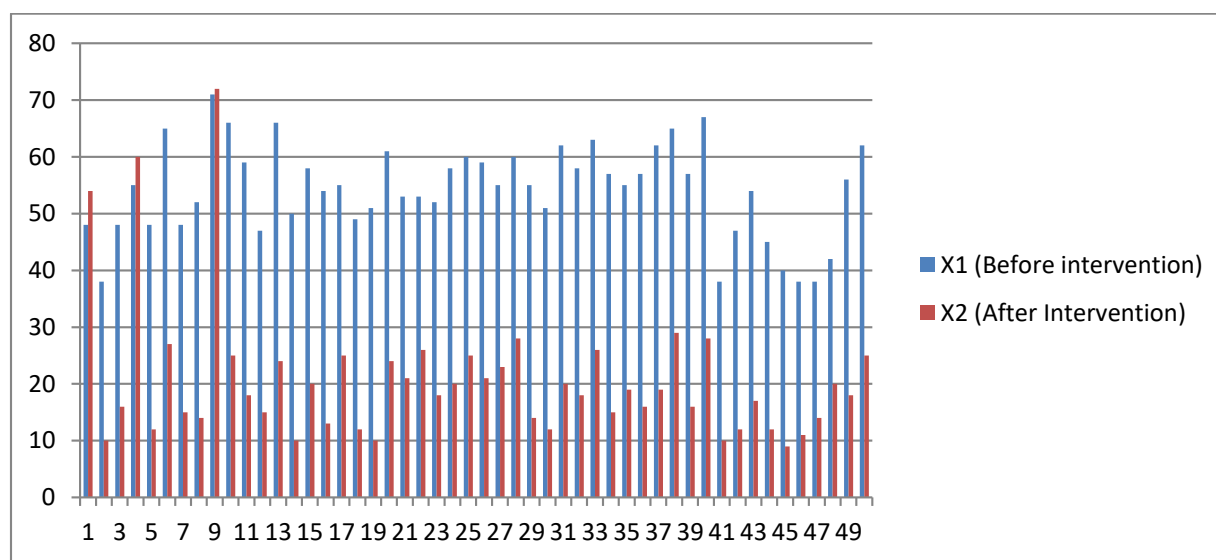
t(Calculated value)= 21.97

df = 49

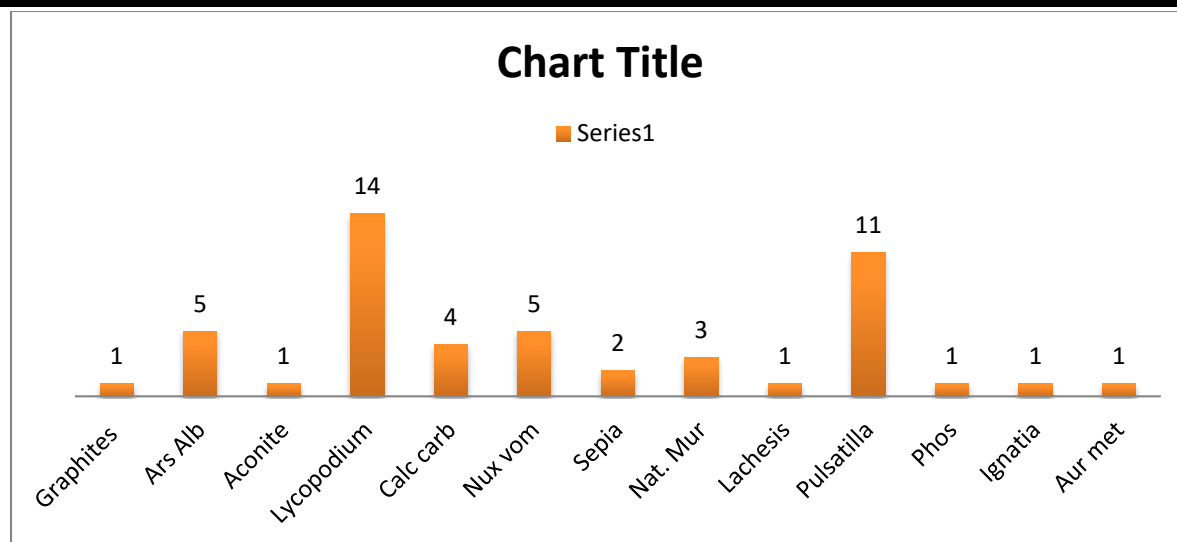
standard error of difference = 1.52

Calculated t-value came to be as 21.97 which is greater than table t-value that is 2.01 so we reject the Null Hypothesis that is “Homoeopathic medicines are not effective in treating the cases of PTSD in RTA survivors”.

GRAPHICAL REPRESENTATION:-

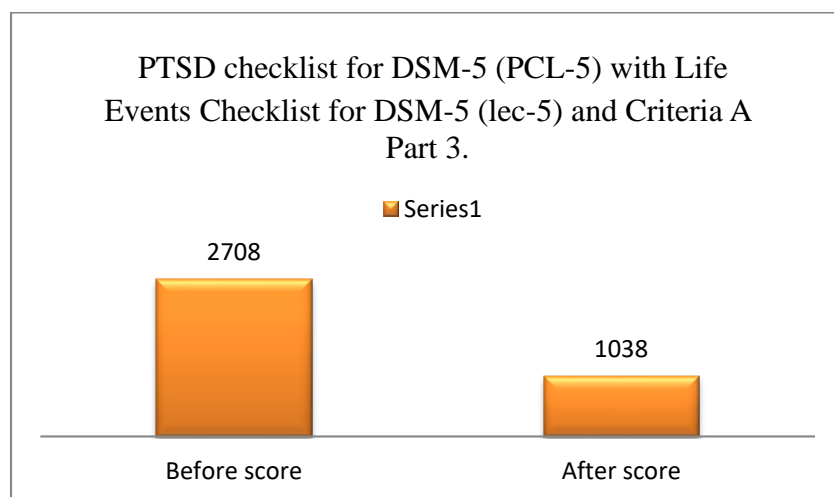


Graphical representation 1: bar graph representing - Before and after intervention scale score



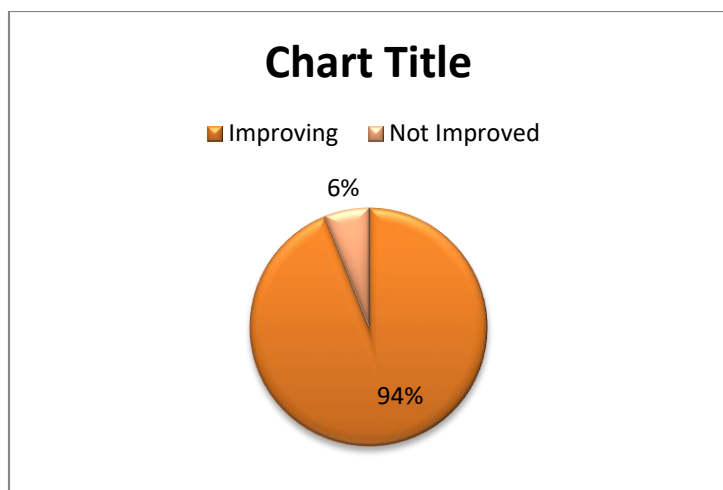
Graphical representation 2: bar graph representing most commonly indicated homoeopathic medicine

Name of medicine	Graph	Ars. Alb	Aco	Lyco	Calc. Carb	Nux Vom	Sepia	Nat Mur	Lach	Puls	Phos	Ign	Aur Met
No. of patients	01	05	01	14	04	05	02	03	01	11	01	01	01
%	2%	10%	2%	28%	8%	10%	4%	6%	2%	22%	2%	2%	2%



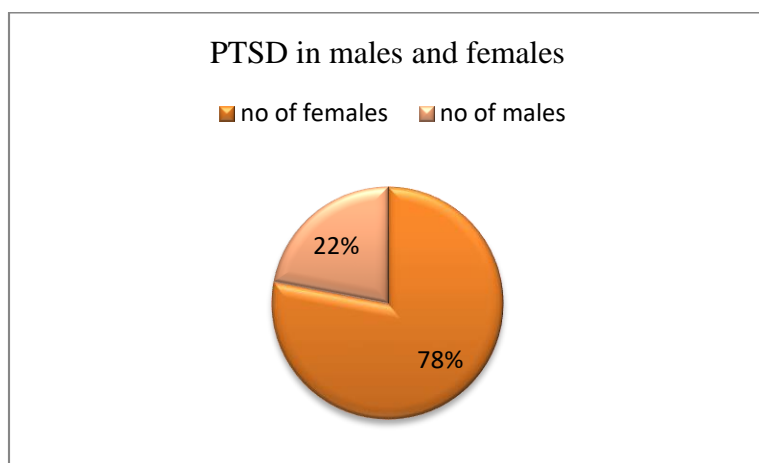
Before score	After score
2708	1038

Graphical representation 3: bar graph representing PTSD checklist for DSM-5 (PCL-5) with Life Events Checklist for DSM-5 (lec-5) and Criteria A Part 3.



Improved	Not Improved
47 (94 %)	03 (6%)

Chart 1: Pie chart representing Improving and not improvement in PTSD Patients.



No. of Females	No. Of Males
39 (78 %)	11(22%)

Chart 1: Pie chart representing PTSD in males and females

RESULT

Sr. no.	Objectives	Result
1.	To evaluate the role of Homoeopathic Medicines in cases of Post-Traumatic Stress Disorder (PTSD) in Road Traffic Accidents (RTA) survivors.	Out of 50 samples 03 (6%) patients were not improved and 47 (94 %)patients were improved according to DSM criteria.

		Calculated t-value came to be as 21.97 which is greater than table t-value that is 2.01 so we reject the Null Hypothesis that is “Homoeopathic medicines are not effective in treating the cases of PTSD in RTA survivors”. Hence we conclude that Homoeopathic Indicated Medicines are effective in treating the cases of PTSD.
2.	To find out the most common indicated Homoeopathic Medicine in Post-Traumatic Stress Disorder (PTSD) in Road Traffic Accident (RTA) survivors.	Out of 50 patients 14 (28 %) got relieved from lycopodium, 11 (22 %) got relieved from pulsatilla, 5 from Nuxvom (10 %)

DISCUSSION:

Road traffic accidents are one of the major cause of death in India. After suffering from accidents people may suffer from post-traumatic stress disorder which can be always misdiagnosed as anxiety disorder. It is observed that females suffer more frequently by posttraumatic stress disorder after accidents than males.

As per the homoeopathic literature, homoeopathy has shown great results in treating the patients of post-traumatic stress disorder in road traffic accidents. The study assessed the effect of Indicated Homoeopathic Medicines on 50 patients. Out of 50 patients 14 (28 %) got relieved from lycopodium, 11 (22 %) got relieved from pulsatilla, 5 (10 %) from Nuxvom, 4 (8%)fromCalcarea carb, 3 (6%) from Natrummur, 5 (10%) Arsenic album, 1(2%) from Graphities, 1(2%) from Aconite, 1(2%) from Lachesis, 1(2%) from Aurum met, 1(2%) from Phosphorus, 2(4%) from Sepia, 1(2%)fromIgnatia. 94% patients got relieved with Homoeopathy.

Post-traumatic stress disorder (PTSD) is the only major mental disorder in which the cause is considered to be known: that is, an event which involves threat to physical integrity of self or others and induces a response of extreme fear, helplessness or horror.

After calculating P value is less than 0.0001 By conventional criteria, this difference is considered to be extremely statistically significant. Calculated t-value came to be as 21.97 which is greater than table t-value that is 2.01 so we reject the Null Hypothesis that is “Homoeopathic medicines are not effective in treating the cases of PTSD in RTA survivors”.

Due to lack of awareness and embarrassment the people suffering with PTSD don't speak about it and after certain period of time, they became habituate with their condition. As a researcher it became difficult for us to make them understand about their condition. Along with the administration of Indicated Homoeopathic Medicines, change in diet with breathing exercises, and meditation were advised. Patients felt better after doing exercises and meditation along with homoeopathic indicated medicines. They said their capacity to do work increased and they felt better than before in general. One of the biggest challenge we faced during research was to remind patient for their follow ups, and improving their diet. But few subjects were habitual of eating unhealthy food their daily activity remained same as before and they felt tired at the end of day as compared with the subjects who changed their diet and followed advice. Literature in the field of homoeopathy concerned with PTSD is scarce and there is huge scope for research that can take place in the future on the same topic.

CONCLUSION:

According to above result we conclude that Homoeopathic Medicines in Post-Traumatic Stress Disorder (PTSD) in Road Traffic Accident (RTA) Survivors are Effective.

Out of 50 patients 14 (28 %) got relieved from lycopodium, 11 (22 %) got relieved from pulsatilla, 5 (10 %) from Nuxvom, 4 (8%) from Calcarea carb, 3 (6%) from Natrummur, 5 (10%) Arsenic album, 1(2%) from Graphities, 1(2%) from Aconite, 1(2%) from Lachesis, 1(2%) from Aurum met, 1(2%) from Phosphorus, 2(4%) from Sepia, 1(2%) from Ignatia.

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