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The effect of yoga package on posttraumatic stress disorder (PTSD) in the survivors of 2013 Uttarakhand flood disaster

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Abstract

Background: Post-traumatic stress disorder (PTSD) is an anxiety disorder. It can develop following a traumatic event that threatens safety or makes feel helpless. PTSD is a serious potentially debilitating condition that can occur in people who have experienced or witnessed a natural disaster, serious accident, terrorist incident, and sudden death of a loved one, war, violent personal assault such as rape, or other life-threatening events.

Aims: To examine the effect of yogic package on PTSD in the survivors of 2013 Uttarakhand Flood Disaster.

Method: All subjects (18 to 55 years) were taken from Uttarkashi district (Uttarakhand). Firstly 70 subjects selected for the study. During yogic intervention some of subjects left the group for their personal reason. Lastly the experiment carried out on 40 subjects.

Results: Significant effects of yogic package on experimental group were found.

Conclusions: These finding demonstrated that the effect of yoga has a positive impact on PTSD in the survivors of 2013 Uttarakhand Flood Disaster.

Keywords: Posttraumatic stress disorder, Flood Disaster, Jyotiavtaran dhyana sadhana, Pragma yoga asana

Introduction

During 14 to 17 June 2013, the Northern Indian state of Uttarakhand and adjoining areas received heavy rainfall, which was about 375 percent more than the benchmark rainfall during a normal monsoon [1]. A multi-day cloudburst centered on the Uttarakhand caused devastating floods and landslides. This caused the melting of Glacier and eruption of the Mandakini River which led to heavy floods in mainly 4 districts; Uttarkashi, Rudrapur, Chamoli and Pithoragarh of Uttarakhand. Thousands of locals and out-of-state pilgrims on the famous char dham yatra routes (to the 4 holy sites of the Kedarnath, Badrinath, Gangotri and Yamunotri temples) have died, many villages have been totally destroyed, many towns have suffered horrendous damage, and several roads and bridges have been swept away. As of 16 July 2013, according to figures provided by the Uttarakhand government, more than 5,700 people were "presumed dead" [2]. This total included 934 local residents [3]. According to Official estimates; 822 were deaths occurred in flood, 1800 were missing persons, 2232 has fully damage houses, 154 bridges get damaged [4], 1520 roads get damaged [5] and 4200 villages were affected [6].

According to data released by the Delhi government, of the total 772 people from Delhi who went to Kedarnath for pilgrimage, only 80 have returned, while 692 are either stranded in the hills or missing. The survivors are suffering from psychological trauma, depression, insomnia and other sleep disorders. Those who have lost their family members are having nightmares, bouts of anger, depression and suicidal thoughts," said Dr Sunil Mittal, director Delhi Psychiatric Centre (Chandra, Mail Online India, 24 June 2013) [12].

Doctors say all survivors may need counseling. Consulting psychiatrist Dr Sanjay Kumavat said, "Most of the survivors, who witnessed their loved ones being washed away or saw people dying will be going through post-traumatic stress disorder" (Menon, Mid-day News, June 23, 2013) [28]. The National Institute of Mental Health and Neuro-Sciences (Nimhans), Bangalore, have come across after speaking to survivors of Uttarakhand floods.

The nine-member Nimhans team in Badrinath is part of the NDMA initiative, now working among the people in Badrinath's Pandukeswar, Hanuman Chatti, Govindghat and other affected villages. The NDMA guidelines focus on "a wide range of psychosocial and mental health problems" arising in the aftermath of disasters with the aim of "helping individuals, families and groups rebuild human capacities and restore social cohesion". Sources in Badrinath said over 80 women were being provided with counseling that would for the next three months (Chakraborty, The Telegraph, 3rd July 2013) ^[11].

Post-traumatic stress disorder (PTSD) is a disorder that develops in some people who have experienced a shocking, scary, or dangerous event. It is natural to feel afraid during and after a traumatic situation. Fear triggers many split-second changes in the body to help defend against danger or to avoid it. This "fight-or-flight" response is a typical reaction meant to protect a person from harm. Nearly everyone will experience a range of reactions after trauma, yet most people recover from initial symptoms naturally. Those who continue to experience problems may be diagnosed with PTSD. People who have PTSD may feel stressed or frightened even when they are not in danger.

Post-traumatic stress disorder (PTSD) is an anxiety disorder. It can develop following a traumatic event that threatens safety or makes feel helpless. PTSD is a serious potentially debilitating condition that can occur in people who have experienced or witnessed a natural disaster, serious accident, terrorist incident, sudden death of a loved one, war, violent personal assault such as rape, or other life-threatening events. PTSD develops differently from person to person. PTSD most commonly develop in the hours or days following the traumatic event, it can sometimes take weeks, months, or even years before they appear.

Most people who experience such events recover from them, but people with PTSD continue to be severely depressed and anxious for months or even years following the event. Women are twice as likely to develop posttraumatic stress disorder as men, and children can also develop it. PTSD often occurs with depression, substance abuse, or other anxiety disorders. Not every traumatized person develops ongoing (chronic) or even short-term (acute) PTSD. Not everyone with PTSD has been through a dangerous event. Symptoms of PTSD most often begin within three months of the event. In some cases, however, they do not begin until years later.

Symptoms of PTSD often are grouped into four main categories, including:

- **Reliving:** People with PTSD repeatedly relive the ordeal through thoughts and memories of the trauma. These may include flashbacks, hallucinations, and nightmares. They also may feel great distress when certain things remind them of the trauma, such as the anniversary date of the event.
- **Avoiding:** The person may avoid people, places, thoughts, or situations that may remind him or her of the trauma. This can lead to feelings of detachment and isolation from family and friends, as well as a loss of interest in activities that the person once enjoyed.
- **Increased arousal:** These include excessive emotions; problems relating to others, including feeling or showing affection; difficulty falling or staying asleep; irritability; outbursts of anger; difficulty concentrating;

and being "jumpy" or easily startled. The person may also suffer physical symptoms, such as increased blood pressure and heart rate, rapid breathing, muscle tension, nausea, and diarrhea.

- **Negative Cognitions and Mood:** This refers to thoughts and feelings related to blame, estrangement, and memories of the traumatic event. Young children with PTSD may suffer from delayed development in areas such as toilet training, motor skills, and language.

According to Sussane Babel, PhD, MFT in somatic psychology, "In 2003-two years after 9/11 in the USA-a magazine reported that 'probably, half the city's firefighters have gone into therapy-6,100 uniformed people received counseling through the department. The department now has 60 full-time counselors instead of the nine it employed before September 11.'" The victims of Uttarakhand floods are more susceptible to PTSD as majority of them have lost their families, home and some have seen their loved ones dying in front of them. Even the army and rescue workers are vulnerable to this anxiety disorder (Gagan, Times of India, 2013, July 5). Bushra Baseerat (TNN 2013, Jun 28) reported that the victims might have dodged death but hundreds of Uttarakhand pilgrims who managed to return home are struggling with nightmares and battling severe trauma after having seen people getting washed away, victims and family members said.

Yoga is a method that may have potential for improving the lives of people. Yoga is an art of life management and a universal means for self realization. Aurobindo (1999) ^[2] defines yoga as "a practical discipline incorporating a wide variety of practices whose goal is the development of a state of mental and physical health, well-being, inner harmony and ultimately a union of the human individual with the universal and transcendent existence". Yoga is an ancient discipline designed to bring balance and health to the physical, mental, emotional, and spiritual dimensions of the individual (Iyengar, 1976) ^[22]. Yoga is the science of human perfection. It is the means by which a person can attain his or her fullest development: physical, mental and spiritual.

Pandit Shriram Sharma has provided very effective technique of Pragy Yoga Vyayam, which include 16 asana in series, Jyoti avtaran dhyana sadhana, Nadi Shoddhan Pranayam. Also provide Sarvangasana, Shavasana and Om chanting. These practices are very helpful to Reliving from the symptoms of PTSD and help in returning back in a normal life. Regular practice of Pragy Yoga Vyayam, pranayama and meditation increases the activation of the nervous system. With the help of these practices body learns to remain calm in stressful situations. By practising yoga package person is able to develop a state of physical, mental and emotional health.

The present study was motivated by the need to develop effective yogic package for the PTSD of mass disasters.

Sample and Sampling

- Total 40 samples.
- Sample will be selected between the ages of 18 to 50 years.
- The sample will be chosen by the administration of Posttraumatic Diagnostic Scale (PDS) on the people affected by the 2013 Uttarakhand Flood Disaster. Those who suffer from the PTSD, from them 40 subjects will be selected randomly.

Tools

Posttraumatic Diagnostic Scale (PDS)

PDS prepared by Edna B. Foa in 1995. The PDS is a 49-item self-report measure in clinical or research settings to measure severity of PTSD symptoms related to a single identified traumatic event. It assesses all of the DSM-IV criteria for PTSD. The scale is valid on samples age 18–65 years.

Research Design

Pretest-Posttest Group Design used in the study.

Firstly Researcher visited to some flood affected places in Uttarakhand. After that researcher choose Uttarkashi Dist. for collecting the sample. Sample specially chosen from Uttarkashi and nearby affected villages. Then researcher had administered Posttraumatic Diagnostic Scale (PDS) over the people. After administration of that scale researcher got the desired samples. After that researcher gave yoga package to sample for 1 month. One month later when the yoga

package was over researcher again administered PDS the sample. After getting the entire scores researcher compared the results between both the groups with the help of t-test.

Yoga Package

- Pragy Yoga Vyayama and Sarvangasana - 10 min.
- Shavasana- 5 min.
- Nadi Shoddhan Pranayama- 10 min.
- Om chanting- 5 min.
- Jyoti Avataran Dhyana Sadhana- 10 min.

Yoga package was given to subjects for 5 weeks.

Intervention starts with the gayatri Mantra recitation followed by all the yogic practices and ends with shantipath.

Result

The obtained data was analyzed in terms of mean, SD, 't' and is presented in the table is as follows:

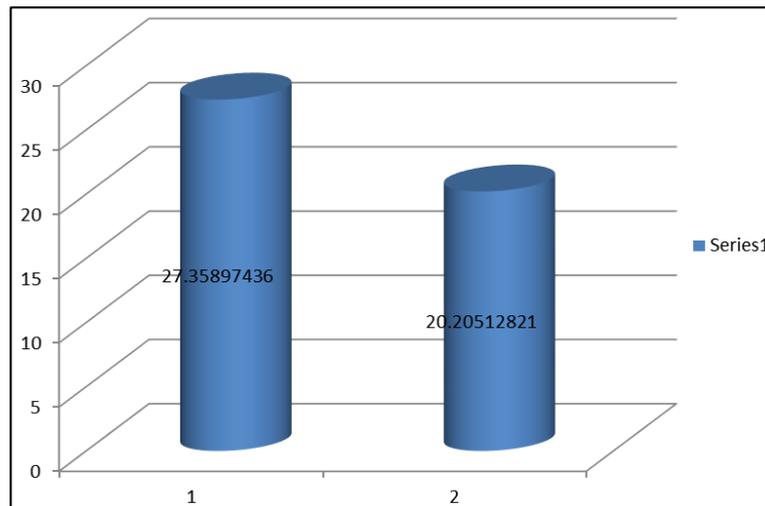
Table 1: Significant difference between pre-test and post-test scores of PTSD Variable among Experimental group.

	N	Mean	SD	SED	r	t-value	Level of Significance
Pre	40	27.36	4.93	0.58	0.83	16.20	P<0.01
Post	40	20.21	4.15				

d=38

The mean value obtained for experimental group of pre-test was 27.36 after this, all samples in the experimental group practiced yoga for 1 month and after yogic practices examination were done and the mean value obtained for

post-test was 20.21. The result shows the significant difference in pre and post-test. The result shows the significant difference between pre and post-test.



The result table reveals that there was significant difference in the pre-test and post test scores of experimental group. The calculated value of “t” is lower than its tabulated value. Hence, it shows that there is a positive effect of yoga on PTSD. Hence, on the basis of the result the hypothesis “There will be no significant effect of Yoga Package on Posttraumatic Stress Disorder (PTSD) in the Survivors of 2013 Uttarakhand Flood Disaster” was rejected.

Discussion

Results revealed that there is a significant difference between pre-test and post test score of experimental group. The obtained value of t in experimental group is “t=16.20” which is significant at 0.01 due to the practice of yogic intervention. Therefore, the practice of yoga by samples may help them from coming out of PTSD’s effect.

By the practice of Yoga package; subjects tried to improve their cognition, mood and help them to build a positive personality. Hence, on the basis of the result the hypothesis of the study i.e. “There will be no significant effect of Yoga Package on Posttraumatic Stress Disorder (PTSD) in the Survivors of 2013 Uttarakhand Flood Disaster” was rejected. The above table reveals that on PTSD there has been significant improvement among the group. Exposure to traumatic events such as military combat, physical and sexual abuse, and natural disaster, can be related to poor physical health. Posttraumatic Stress Disorder (PTSD) is also related to health problems. This fact sheet provides information on the relationships between trauma, PTSD, and physical health; specific health problems associated with PTSD; health-risk behaviors and PTSD; mechanisms that help explain how PTSD and physical

health could be related; and a clinical agenda to address PTSD and health. A considerable amount of research has found that trauma has negative effects on physical health. The relationship is clearest when examining self-report of physical health problems and trauma experienced as a result of time in the military, sexual assault, childhood abuse, and motor vehicle accidents. Greater self-report of military trauma, sexual assault, childhood abuse, and motor vehicle accidents is related to greater self-report of health problems. However, when health status is measured by physician diagnosis, associations are not as consistent for military trauma and sexual assault in adulthood. There is, however, a probable association for survivors of natural disaster. Two recent studies found that reports of childhood abuse and neglect were related to an increase in physician diagnosed disorders including cancer, ischemic heart disease, and chronic lung disease. It is also likely that a relationship exists between the experience of a trauma and an increase in utilization of medical services for physical health problems. Yoga is considered as an effective adjunctive treatment to improve PTSD. With the help of Pragma Yoga one is able to correct their physical, mental as well as their spiritual body too. Pragma Yoga was given by Pt. Shriram Sharma Acharyaji. Pragma Yoga removes the physical and mental stress inside the body. Pragma Yoga strengthens all the joints of our body. Increasing the lubrication inside the joint of the body and removing the inside of the nerves. Yoga is the best remedy. It is very helpful in keeping the body's internal organs healthy. Pragma Yoga also enhances self confidence in you. By doing it, there is physical, mental and spiritual development inside you. It should be done peacefully and correctly. Pranayama and Yoga brings stability, calms the mind, improve blood circulation and cure depression, stress and anxiety which are very common in PTSD.

Chanting of OM Mantra purifies the environment around the chanter and produces positive vibrations. The OM not only gives positive results to the one who is chanting it but to the entire vicinity wherever its vibrations flow. It cleanses aura. It brings us in a meditational state which gives deep relaxation. With the help of Om chanting concentration increases. In one study the meditators showed a statistically significant reduction in heart rate during meditation and Om chanting compared to the control period.

With the help of meditation patients are able to cope up with stress and depression. Meditation provides peace to the mind. It calms down sympathetic activities like anxiety, irritability etc. which is generally common in person with eating disorder. By practising meditation there is a reduction in heart rate was about 9% and diastolic blood pressure was slightly raised. Jyoti avtaran dhyana sadhana is very good in improving once mental set. This meditation is a boon for depression, anxiety and stress. Meditation initiates parasympathetic activities in the body which results in coolness and calmness of the body. It also slows down the sympathetic activity. Meditation not only improves calmness of the mind but also develop self-confidence and ability to accept our self. Through the continuous practice of meditation one is able to get rid of symptoms of PTSD.

Conclusion

In the present study there is a significant improvement in the group after adapting the yogic package. Although the sample size is small still there is a positive impact in reducing PTSD in survivors of Uttarakhand Flood Disaster.

Further study of a large sample is necessary to confirm these results. The present study reveals that yoga is more effective in the treatment of PTSD and it also improves quality of life. Yoga therapy helps them to again back on the normal life. Therefore, it can be concluded that yoga is very effective in treating PTSD.

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