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# Acute stress disorder as a herald of post-traumatic stress disorder: A review.

# El trastorno de estrés agudo como heraldo del trastorno de estrés postraumático: una revisión.

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ABSTRACT

Background: Psychosomatic disorders have taken a rapid rise in this developing world due to constant advancement in the usage of technology. Since ancient times, psyche meant mind or soul and recently it has been referred to as behaviour. Acute Stress Disorder is a psychological reaction to a traumatic event which lasts from three days to one month. When it lasts for more than a month, it is termed as post-traumatic stress disorder. Cognitive behavioural therapy (CBT), antianxiety medications and proper counselling sessions are found effective in treatment of acute stress disorder. Objective: In this study through an aid of various papers present in PubMed, Google Scholar, Web of Science, we have explained how acute stress disorder when left untreated transforms into post-traumatic stress disorder and suggest the measures can be undertaken to prevent it. Methods: Relevant studies were recognized by an inclusive literature search in electronic databases and reference list of reference papers. Details on patients, methods, interventions, outcomes and results were extracted in a standardized manner and quality was assessed. Results: Papers included in the study were of event of motor vehicle accident, terrorism, violent crime, disaster, mass shooting and insomnia. The papers were taken after complete assessment. Conclusion: The information collected from the papers were insufficient to support or refute that acute stress disorder as herald for post-traumatic stress disorder but it somehow indicated that early diagnosis and appropriate counselling with medications can help in the treatment and prevent the development of post-traumatic stress disorder.

Keywords: Stress, trauma, acute stress, post-traumatic stress.

RESUMEN

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days to one month. When it lasts for more than a month, it is termed as post-traumatic stress disorder. Cognitive behavioural therapy (CBT), antianxiety medications and proper counselling sessions are found effective in treatment of acute stress disorder. Objective: In this study through an aid of various papers present in PubMed, Google Scholar, Web of Science, we have explained how acute stress disorder when left untreated transforms into post-traumatic stress disorder and suggest the measures can be undertaken to prevent it. Methods: Relevant studies were recognized by an inclusive literature search in electronic databases and reference list of reference papers. Details on patients, methods, interventions, outcomes and results were extracted in a standardized manner and quality was assessed. Results: Papers included in the study were of event of motor vehicle accident, terrorism, violent crime, disaster, mass shooting and insomnia. The papers were taken after complete assessment. Conclusion: The information collected from the papers were insufficient to support or refute that acute stress disorder as herald for post-traumatic stress disorder but it somehow indicated that early diagnosis and appropriate counselling with medications can help in the treatment and prevent the development of post-traumatic stress disorder.

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## INTRODUCTION

Dr. Brock Chisholm of World Health Organization had said that “without mental health there can be no physical health.” Around 14% of the diseases residing in the world is linked to neuropsychiatric disorder, in the form of depression, anxiety, stress, common mental disorders, alcohol with substance use and psychoses.[1] Traumatic events can trigger a variety of psychological and physiological reactions that effect well-being over time. Years of research has demonstrated the activation of several “fight-or-flight” responses in the treatment process, including increase in level of heart rate, blood pressure, cortisol and other stress hormones, with altered lipid metabolism, can have significant long-term results on health.[2] In the current state, stress has become one of the commonest reasons to occur as psychosomatic diseases. Stress is explained as any kind of physical, emotional or psychological strain.[3] which can arise from any matter or deed which leads to frustration, anger or nervousness. It can be delivered via work, relationship, financial pressure, and other situations, and anything that is a threat to a person’s well-being. [4]

## ACUTE STRESS DISORDER

Nearly 6 to 33% of person who experience a traumatic event develop ASD, according to the U.S. Department of Veterans Affairs. The rate varies based on the nature and intensity of the traumatic event.[5]

Acute stress disorder is an intense, unpleasant and dysfunctional reaction incepting shortly after an overwhelming traumatic event. It was introduced into DSM (Diagnostic and Statistical Manual of Mental Disorders) taxonomy to address the scarcity of specific diagnosis for acute stress responses which occur in initial month after trauma and about role that dissociative phenomenon plays both in short- and long-term reaction to trauma. It is a

DSM V disorder which is characterized by three or more dissociative symptoms, reexperiencing, avoidance and hyperarousal, and occurring from two days to four weeks after the trauma.[6] The diagnostic criteria for acute stress disorder are:

DSM-5 CRITERIA FOR ACUTE STRESS DISORDER:

1. Intrusion symptoms
    - Recurrent distressing trauma memories
    - Recurrent trauma related dreams
    - Flashbacks of the event
2. Negative mood
    - Loss of positive thoughts
3. Dissociative symptoms
    - Sense of numbing or detachment
    - Dissociative amnesia
    - Reduced awareness of surroundings
    - Derealization
    - Depersonalization
4. Avoidance symptoms
    - Avoiding any thoughts or memories of the traumatic event
    - Avoiding people or places that might remind you of the traumatic event.
    - Doing this often leads to self-isolation.
5. Arousal symptoms
    - Finding it difficult to fall asleep or stay asleep
    - Getting distracted easily
    - Hypervigilance
    - Reacting strongly to the smallest of triggers in environment that remind you of traumatic event.
    - Being highly alert to your surrounding
    - Angering easily even with little or no provocation [7]

Distinction amid acute and post-traumatic stress disorders:

The basic gulf between acute stress disorder and post-traumatic stress disorder is the duration of symptoms. ASD refers to the symptoms that arise right after the trauma manifesting during period of 2 days to 4 weeks after the trauma. It is existing in the individual's life for relatively shorter period of time whereas PTSD can only be diagnosed

after 4 weeks from when the trauma occurred. It is often severe disorder that develops after exposure to highly stressful events. [8,9]

ASD can last between two days to four weeks whereas PTSD lasts at least for one month and can persist for several years. ASD is also distinguished from PTSD by its emphasis on dissociative symptoms. In contrast to PTSD, a diagnosis of ASD requires that the patient should have at least three dissociative symptoms whereas in PTSD the patient must also experience intrusive, avoidance and arousal symptoms along with the dissociative symptoms. [9,10]

ASD requires short term psychotherapy and medications whereas PTSD requires long term psychotherapy, medications and EDMR therapy. [8,9]

## MATERIALS AND METHODS

An inclusive computerized literature search was executed to find clinical research articles. PubMed, Google scholar and CAM Quest was searched significantly. Only human based clinical trials were included in this review. Full length research articles were included. The articles which had duplications and also which did not provide solid conclusions were excluded.

## RESULTS

It was found through the papers that acute stress disorder develops post-traumatic stress disorder through some extent when left untreated. The key data of all included studies are summarized in Table 1.

The objective of this trial was to determine acute stress disorder as a herald for post-traumatic stress disorder. The evaluation of ASD for predicting PTSD has been studied using various trauma examples from which few paradigms are depicted below:

In the study of motor vehicle accident survivors (Harvey, Allison G., Bryant, Richard A.) (n=92) were assessed for ASD within one month of trauma and again assessed (n=71) for PTSD till 6 months trauma. ASD was diagnosed in 13% of the participants and rest 21% had subclinical levels of ASD present. During follow up, 78% of ASD participants and 60% of subclinical ASD participants met the criteria of PTSD. Clustering these findings indicate that the ASD diagnosis has valued in identifying those who may develop PTSD. [11]

A case study of victims of violent crime (Chris R. Brewin, Bernice Andrews, Suzanna Rose, Marilyn Kirk), a mixed sex group of 157 victims of violent assaults were interviewed within one month of the crime. At 6 month follow up 88% were reinterviewed which portrayed the rate of ASD as 19%, and the rate of subsequent PTSD as 20%. All

symptom cluster predict subsequent PTSD, but not as an overall diagnosis of acute stress disorder, which correctly classified 83% of the group. This study provides evidence of acute stress disorder as a strong predictor of PTSD. [12]

In the study of being a bystander to violence involving mass shooting (Catherine Classen, Cheryl Koopman, Robert Hales, David Spiegel). 36 employees were employed for the study who were working in the office building where 14 persons were shot. There acute stress response was assessed within 8 days of the event and post-traumatic stress symptoms of 32 employees were assessed 7-10 months later. 33% (12) of the employee met criteria for diagnosing acute stress disorder. Acute stress symptoms were excellent predictor of post-traumatic stress symptoms. These results suggest that acute stress reactions to such an event further predicts later post-traumatic stress symptoms. [13]

In the study of insomnia and excessive daytime sleeplessness (Danny Koren, Isaac Arnon, Peretz lavie, Ehud Klein), was assessed in 102 victims of motor vehicle accidents and 19 comparison subjects 1 week and one, three, six and twelve months after the trauma. 26 of the accident victims but none of the comparison subjects met the criteria for PTSD. Sleep complaints from 1 month on were significant in predicting PTSD at 1 year. The result suggested that on the basis of sleep complaints as early as 1 month after the trauma, it is possible to detect who will later develop PTSD.[14]

In a prospective study regarding terrorism (Kutz & Dekel) spotted four months after a terror attack, 44% of those initially diagnosed with ASD were further diagnosed of post- traumatic stress disorder. [15]

In a study of exposed disaster workers and unexposed comparison subjects (Carol S., Robert J., Leming Wang) were examined at 2,7 and 13 months after an airplane crash. The exposed workers had higher rates of ASD, PTSD at 13 months than comparison subjects. Those with high exposure and previous disaster experience or who had ASD before were more likely to develop PTSD. [16]

A few studies (Kangas, Kessler, Sonnega, Bromet & Hughes) have shown depression, substance abuse disorders and anxiety occur both as a comorbid disorder and in isolation of trauma. Results have been shown that 12% of cancer patients, 72% of motor vehicle causalities and 46% of assault victims who were initially in the criteria of acute stress disorder had later developed post-traumatic stress disorder. [17]

Table 1: Summary of relationship between AS and PTSD

| Author | Event | Sample size | Duration | Result |
|---|---|---|---|---|
| Harvey, Allison G., Bryant, Richard A.) | Motor vehicle accident | 92 | One month | 78% of ASD participants and 60% of subclinical ASD participants met the criteria of PTSD |
| Chris R. Brewin, Bernice Andrews, Suzanna Rose, Marilyn Kirk | Violent crime | 157 | 6 months | The rate of ASD was 19%, and the rate of subsequent PTSD was 20% |
| Catherine Classen, Cheryl Koopman, Robert Hales, David Spiegel | Mass shooting | 36 | 7-10 months | 33% (12) of the employee met criteria for diagnosing acute stress disorder |
| Danny Koren, Isaac Arnon, Peretz lavie, Ehud Klein | insomnia | 102 | 2-12 months | 27% of who initially diagnosed with ASD later develop PTSD. |
| Kutz & Dekel | Terrorism | 44 | 4 months | 44% of those initially diagnosed with ASD were further diagnosed of PTSD. |
| Carol S., Robert J., Leming W. | Disaster | 207 | 2-13 months | 40% of those diagnosed with PTSD were initially diagnosed with ASD. |

*Table 1*

REEXPERIENCE OF ACUTE AND POST-TRAUMATIC STRESS DISORDER:

The illustration of symptoms reexperiencing in ASD diagnosis appears close to the parallel cluster of symptoms in PTSD diagnosis, the two clusters are differentiated in two discrete ways. Firstly, the PTSD diagnosis specify that reexperiencing symptoms must cause the sole distress, the ASD diagnosis speaks nothing of the negative emotional reaction to the traumatic thoughts or images. There are evidence existing that individuals vary distinctly in their subjective reaction to intrusive recollection of trauma. For example, the terrorist attack survivors (Kutz & Dekel) reported equal frequencies of intrusive memories within first week of the accident, they reported varying levels of distress in reaction to these memories. Failure of the criteria to involve distress as a reaction to reexperiencing symptoms is not consistent with evidence that not every unwanted thought is unpleasant (Rachman & De silva), and the findings that acute stress is arbitrated by the extent to which individuals fear their remembrance of trauma (Bryant & Harvey). Secondly, unlike the post-traumatic stress disorder diagnosis, the Acute stress disorder diagnosis does not require that the re-experiencing be unwanted or involuntary.[6]

## PREVENTION OF POST-TRAUMATIC STRESS DISORDER

The extent to identify in the acute trauma phase of those individuals who are at risk of developing chronic PTSD present an opportunity to prohibit the development of chronic PTSD through early interventions. Several studies have evaluated early treatment programs.

One such study (Richard A Bryant, Tanya Sackville, Suzanne T. Dang, Michelle Mould, Rachel Guthrie) was focused on preventing PTSD by an early provision of cognitive behaviour therapy. Particularly, this study recorded the usefulness of prolonged exposure and anxiety management in the treatment of acute stress disorder. 45 civilian trauma survivors with ASD were provided five sessions of prolonged exposure (14), combination of prolonged exposure and anxiety management (15), supportive counselling (16) within 2 weeks of their trauma. 41 trauma survivors were assessed at 6 month follow up. Fewer patients with prolonged exposure and prolonged exposure plus anxiety management than supportive counselling met the criteria of PTSD after treatment. There were also less cases of PTSD in the prolonged exposure group and the prolonged exposure and anxiety management group than in supportive counselling group 6 months after trauma. These findings indicate that PTSD can be effectively prevented with an early provision of cognitive behaviour therapy and that prolonged exposure may be the most critical section in treatment of Acute stress disorder. [18]

## CONCLUSION

In present lifestyle psychological stress is among the leading problem in humans due to lifestyle and the pattern on the service. Acute stress disorder in different types of traumas contribute in development of post-traumatic stress disorder. The relative importance of dissociative, avoidance, arousal and intrusive symptoms in predicting later disturbances must be clarified. As elaborated through different paper work, acute stress disorder when left untreated can even cause chronic post-traumatic stress disorder which can be difficult to treat. Early diagnosis and appropriate counselling with medications can help in the treatment and prevent the development of post-traumatic stress disorder. It is required to prevent such diseases to maintain a healthy body and mind.

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There are no conflicts of interest.

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