The Causes and Effects of Post-traumatic Stress Disorder

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Abstract: After a particularly traumatic occurrence that leaves the patient with profound mental anguish and long-lasting negative effects, post-traumatic stress disorder (PTSD) typically develops. Therefore, determining the precise causes of PTSD and how it affects patients is of tremendous practical importance as well as scientific research value. This paper aims to analyze the possible factors that lead to PTSD disease and discuss the impact on the patient himself after suffering from PTSD. The results reveal that major negative events, natural and man-made disasters, physical injuries, and psychological harm are the main reasons for people to develop PTSD. PTSD has the possibility of increasing people's criminal tendency, which will bring self-mutilation and other self-harming behaviors to patients. Additionally, it is often accompanied by many psychological and physical complications during the onset of the disease, which further damage the patient's health. The paper provides insight into the prevention and intervention of PTSD.

1 Introduction

Researchers from all over the world have studied Post-traumatic stress disorder (PTSD) extensively since the American Psychiatric Association first proposed the idea in the third edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM-III) created by the American Psychiatric Association in 1980 [1]. At present, there has been a certain understanding and accumulation of both the structure and the causes and consequences of PTSD. The most well-known concept of PTSD is a mental disorder that develops after an individual experiences a major catastrophic event [2]. Mental injury is a special injury of physical and mental trauma. Mental injury is different from physical injury. The factors of mental injury are complex and the manifestations of the injury are different. Since the 21st century, with the accelerated pace of life, fierce social competition, and the outbreak of many major disasters, the problems related to this aspect have also increased year by year.

The development of PTSD is no longer limited to major natural disasters or wars. In addition to these factors, many traumatic events in life can also cause stress disorders of varying degrees. Frequent large-scale disasters worldwide in the past two decades have led to a surge in PTSD patients among the affected population. Due to the serious damage to human health caused by this mental illness, it has caused huge consumption of social resources. Therefore, how to deal with PTSD has been paid more and more attention by governments and the scientific community [1].

1.1 Core manifestations of PTSD

The main clinical manifestations of PTSD include four groups of symptoms. It involves repeated recurrence of traumatic experiences, persistent avoidance, negative changes in cognition and mood, and hypervigilance [3].

1.1.1 Repeated recurrence of traumatic experiences.

The reappearance of traumatic experience refers to the repeated and invasive reappearance of traumatic events in the patient's mind, also known as flashback [1]. The traumatic memory forced into the mind whenever the individual is awake or asleep and the event scene at that time is reproduced in the form of flashbacks or nightmares. Therefore, the individual repeatedly experiences the original emotions and feelings and the intensity is similar.

1.1.2 Avoidance response.

People try to avoid discussing, remembering, and asking questions about the trauma they've gone through, as well as avoiding anyone connected to the terrible occurrence and staying away from the scene. Excessive avoidance of negative stimuli can lead to dissociative symptoms. Dissociation is a mechanism by which individuals remain unconscious of traumatic experiences due to the severing of the normal connection process between individual consciousness and memory, and is a manifestation of individuals trying to protect themselves from trauma [1].

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1.1.3 Negative changes in cognition and mood

Many patients experience negative cognitive and mood changes following traumatic events. They lose interest in everything, are indifferent to love and concern for others, and feel discouraged about the future. When the symptoms are so severe that they can even become so disillusioned that they have suicidal tendencies [1].

1.1.4 Arousal response.

People with PTSD experience persistent hypervigilance symptoms such as irritability, fright, insomnia, nervousness, anxiety, overreacting to little things, and difficulty concentrating. Physical symptoms including palpitations, shortness of breath, and other similar ones are frequently present in patients with the aforementioned symptoms.

1.2 Clinical manifestations in children

In addition, the clinical presentation of PTSD in children differs from that in adults. Yule pointed out that children will have dissociative reappearance experiences, sleep disturbances, nightmares, agitation and anger, fear of specific things, language difficulties, distraction, and memory difficulties [4].

Constrained by factors such as immature brain function and insufficient language skills, children often cannot describe their experiences clearly [1]. Adults can determine if a child has PTSD by observing their unusual behaviors, such as compulsive repetition—which can be determined by the child's nightmares—repeatedly replaying traumatic events, playing games with traumatic themes, and displaying emotional or depressive symptoms in the presence of pertinent cues. The avoidance symptoms of PTSD can be reflected in children's separation anxiety, attachment, and reluctance to leave their parents. The possibility of PTSD in children can also be seen in high vigilance, attention deficit, irritability or rage, difficulty falling asleep, etc. Additionally, PTSD symptoms in children of different ages can vary.

This article reviews the milestones of PTSD, including the causes and effects of PTSD. In addition, future research in this field has been prospected.

2 STRESSOR and epidemic characteristics

2.1 Negative life events

Negative events at home, work, school, and socializing are common. Such as family discord, husband and wife against each other, financial distress, serious illness of family members, death, lovelorn, overwhelmed work tasks, school or employment pressure, colleague or neighbor disputes, interpersonal tension, etc. Among the causes of mental injury, 32% are related to life events [5]. The most common ones are family and interpersonal problems, which are more common in middle-aged women. This is related to the fact that middle-aged people have great social responsibilities, heavy family burdens, and pressure resistance. While most people experience some unusual reactions or even acute stress disorder (ASD) after a traumatic event, only a few of them end up with PTSD. This indicates that the emergence of PTSD is tied to each individual's subjective feelings about the traumatic event as well as the traumatic event's occurrence and severity.

2.2 Natural and man-made disasters

The victims of disasters and those involved in the rescue are often mentally damaged due to the tragic scene caused by the high number of people injured or killed by disasters. The incidence of PTSD manifestations in rescuers can reach 17.95% [6].

Common natural disasters include earthquakes, storms, fires, and floods, all of which lead to a high incidence of PTSD. There were 130 earthquake survivors in Northridge, California, and 13% of them matched the complete PTSD criteria [7]. The incidence of PTSD was 18.8% in the third month and 24.4% in the ninth month after the earthquake in Zhangbei [8]. Madakasira surveyed the mental health of 116 victims 5 months after the tornado hit North Carolina, and 69 (59%) met diagnostic criteria for acute PTSD [9]. The prevalence of PTSD was as high as 100% among injured survivors of the fire [10].

Man-made disasters include wars, terrorist incidents, traffic accidents (air crashes, shipwrecks, car accidents), chronic diseases, and occupational injuries. Kidson examined 108 veterans who participated in World War II and found that 49 (45%) still had significant PTSD 45 years after the war [11]. The 9.11 terrorist incident has become one of the tragedies in American history. About five to eight weeks after the incident, 7.5% of the residents living in Manhattan, New York were diagnosed with PTSD, and 9.7% of the residents suffered from depression [12]. The incidence of PTSD after 3 months in car accident survivors ranges from 38.27% to 41% [13,14]. Between 3 and 19 percent of cancer patients currently have PTSD, and between 10 and 22 percent of cancer patients in their lifetime [15].

2.3 Physical harm

Physical injuries that cause more serious organic mental disorders include craniocerebral injury, disfigurement, and disability (paralysis, amputation, organ loss, loss of sexual and reproductive functions), as well as violence and rape. The incidence of PTSD after rape is as high as 80% [16]. Disfigurement and disability not only destroy the victim's original normal, harmonious and healthy body but more importantly, the psychological trauma cannot be recovered for a long time or even for life. Dysfunction and disfigurement is a strong mental stimulation, and the mental pain caused by the mutilated limbs and incomplete functions often exceeds the physical pain. Severe psychological trauma makes patients feel inferior, depressed, sad, and even constantly miserable and suicidal. At the same time, it brings a great burden to the victim's family and brings mental harm to their family.

2.4 Psychological harm

Psychological harm can also be called mental violence, such as frame-up, persecution, slander, insult, deceit, and violation of the "four rights" (portrait rights, name rights, honor rights, and reputation rights). Among them, frame-up and persecution are the most serious and cruel. In order to achieve a certain political or personal purpose, the perpetrator fabricates crimes, creates injustices, falsely frames others, and causes the victims to suffer psychological harm due to arrest, imprisonment, threats, extortion of confessions, and personal and family lives are at risk. In addition, abuse, neglect, and abandonment are factors in direct psychological harm. Kroll conducted a survey of 404 Asian immigrants and found that 3/4 met the DSM diagnostic criteria for depression, and 14% met the PTSD diagnostic criteria [17]. Psychological harm is especially common in families. At present, domestic violence is no longer limited to physical violence. There is another kind of mental violence that is equally harmful, which causes many women (or men) to suffer greatly. People who suffer from mental violence mostly lose their self-confidence and the courage to prosecute in a long-term violent environment. They will have various psychological problems and have to continue to maintain the marriage relationship under this kind of oppression. Even after filing for divorce, they still faced PTSD in the marriage.

3 The Effects OF PTSD

3.1 Criminal tendencies

Most adults with mental disorders, multiple personalities, sociopaths, and borderline states, as well as teens convicted of murder, were abused and frightened in childhood. Even minor life experiences and mental traumas in youngsters might result in a variety of emotional and behavioral issues. The aftereffects of these incidents can last for many years, occasionally developing into different behavioral disorders in adulthood, and are closely related to the onset of mental illness. They can even have more severe effects than just mental problems, such as violent behavior and criminal tendencies.

In Driessen and his colleague' study of a comparable sample group of 63 incarcerated women and 76 male German prisoners, they have high rates of childhood traumatic experiences and mental disorders [18]. 50.4 percent of the sample reported having experienced at least one mild to severe childhood trauma. Risk of adult PTSD development is one of the negative effects of childhood trauma on mental health [19]. This also means that PTSD is strongly associated with crime.

Additionally, it is impossible to overlook the high prevalence of PTSD among veterans, who also have a high likelihood of having violent tendencies. It is reasonable that such PTSD prevalence is associated with violence. In a survey of combatants with PTSD, Jolene pointed out that earlier studies had concentrated on people who had gone through trauma, such as war and conflict, and similar traumatic occurrences. Jolene later contributed research on the effects of these experiences on those who have PTSD and how it relates to service in the military and the criminal justice system. It was also pointed out in the research that not every veteran with PTSD acts aggressively, but they are at high risk for violence [20].

3.2 Harmful behavior

In addition to seriously impairing the individual's psychological and normal social functions, PTSD even threatens the individual's survival. PTSD patients tend to lose interest in hobbies, have cognitive decline, negative attitudes towards everything, and a significant decline in problem-solving skills. Persistent increased vigilance is also a common symptom of PTSD patients. Long-term mental stress and severe sleep disturbance will increase the physiological load of the body and increase the risk of respiratory diseases, coronary heart disease, and other psychosomatic diseases. These physical patients interact with mental torture, which further reduces the patients' ability to withstand pressure, deepens their pessimistic view of the future, and finally deepens their suicidal ideation and chooses to commit suicide. Studies have shown that 1/3 of the patients will not heal for life and lose the ability to work, 1/2 of the patients are often accompanied by mood disorders such as depression and anxiety and have drug and alcohol abuse behaviors. What is more serious is that the suicide rate of PTSD patients is 5 times that of the general population [21]. In 65 PTSD-afflicted women, Harned's study looked at the frequency, methods, and relationships between self-harm and suicidal conduct. According to the research, PTSD may cause self-harm and suicidal conduct [22].

After many disasters, the suicide rate of survivors increases, and even many rescue workers experience suicidal ideation. This is because survivors of disasters, wars, or catastrophes are prone to PTSD. People with PTSD often experience repetition, feelings of guilt, self-blame, and suicide. PTSD causes the same experiences or memories to be repeated over and over again, and this repeated painful experience leads to deeper and deeper guilt as a leading cause of suicide. According to research by Maguen, 2.8% of the 2854 troops who participated in Operation Iraqi Freedom reported having suicidal thoughts, and PTSD symptoms were linked to the soldier's present-day intention to kill oneself. In their study, many of the suicide soldiers recounted murdering women and children when they were afraid or enraged. Soldiers with PTSD will continue to be plagued by such violent images. In conclusion, it has been demonstrated that several crucial factors raise the risk of suicide in service members and veterans [23].

PTSD can coexist with physical conditions like hypertension and bronchial asthma as well as mental illnesses including anxiety, depression, substance abuse, and others [24]. Comorbidities cause individuals to suffer from multiple ailments, both physical and mental, leading to a higher risk of suicide.

3.3 Complications

PTSD and other psychiatric diseases frequently co-occur. The vast majority of PTSD sufferers, according to epidemiological survey data, match the criteria for at least one other psychiatric disease, and a significant portion has three or more [25]. Unlike physical trauma, psychological trauma does not heal naturally and often leaves behind many complications. Traumatic feelings permeate the subjective interpretations, behavioral patterns, and cognitive patterns of survivors who are unable to digest them on their own as time pass. The signs of additional psychiatric diseases, including sadness, anxiety, substance abuse, restlessness, and personality abnormalities, manifest in survivors. In the study, 98.9% of Vietnam War veterans met the criteria for one or more additional mental illnesses in addition to having PTSD. The most prevalent co-occurring disorders with PTSD were substance use disorder (73%) antisocial personality disorder (31%), and severe depression (28%) [26]. Rytwinski conducted a meta-analysis on the comorbidity of PTSD and depression, including a total of 57 research projects and 6670 patients [27]. They obtained the following results: about 52% of PTSD The patient also suffered from depression and soldiers are more likely to have both PTSD and depression than civilians. The converse of comorbidity is that depressed people with PTSD will experience more severe psychiatric symptomatology, which is another aspect that makes psychological treatment more challenging [28].

If people suffer from PTSD and other psychiatric disorders at the same time, both functional impairment and recovery from the disease will face more challenges for the patient. People should be fully aware of the relationship between mental injury and other injuries and diseases. Every injury or disaster may result not only in casualties or disability but also in trauma and psychological disorders.

4 CONCLUSION

This article has classified the causes of PTSD and explored its possible effects. Possible causes of PTSD include negative events, natural and man-made disasters, and physical and psychological harm. The effects include but are not limited to crime, self-harm, and various complications.

Taking corresponding intervention measures for different injury factors is one of the main ways to reduce the prevalence of PTSD. An important part of the pathophysiology of mental injury is played by imperfect personality traits, conflicts in daily life, strain, and other elements. As a result, minimizing adverse life events to enhance personal coping mechanisms and aggressively pursuing psychological intervention strategies are crucial to the prevention and treatment of diseases. For family problems, improve the way of communication within the family and the roles of family members. Take appropriate psychotherapy for the type of life event. For interpersonal problems, take interpersonal psychological counseling treatment, improve the patient's interpersonal skills, and relieve the psychological pressure caused by interpersonal conflicts. For patients with work and study problems, adopt cognitive psychotherapy to change negative cognition and establish reasonable psychological expectations. Following both natural and man-made disasters, prompt intervention is necessary to reduce the stress reaction. Timely appease and recover the injured psychology, so that they can be relieved from the stress response, which can also play a good role in coping with catastrophic events and preventing the occurrence of PTSD. It is one of the effective intervention measures to provide strong social support for framed or persecuted persons, improve and perfect relevant laws, raise citizens' safety awareness and legal awareness through publicity and education, and use regulations to restrict people's behavior.

In future studies, researchers may study PTSD from more dimensions and find more contributing factors and symptoms. PTSD will be treated using a range of techniques and strategies as research into the condition continues to advance, allowing patients to heal more quickly and effectively. At the same time, it is necessary to increase the social publicity and popularization of PTSD, so that people's understanding of this kind of psychological disorder can be more clearly understood, and to minimize the occurrence of people's wrong cognition of their psychological state.

REFERENCES

1. J. Yang, X. Wang, J. Lou, (2015). A review of research on post-traumatic stress disorder in China over the past decade. Journal of Longdong University, 1674-1730.
2. Y. Tian, X. Wu, J. Chen, W. Wang, (2019). Complex post-traumatic stress disorder: concept, assessment, cause and intervention. Journal of Beijing Normal University, 1002-0209.
3. American Psychiatric Association. Diagnostic and Statistical Manual of Mental Disorders: DSM-IV. American Psychiatric Publishing, 56-63.
4. W. Yule, (2009). Post-traumatic stress disorder in children and adolescents. International Review of Psychiatry, 13(3), 194-200. DOI:https://doi.org/10.1080/09540260120074064
5. X. Cu, (1989). The impact of stress life events on health. Foreign medicine, psychiatry fascicle,3,164-165.
6. W. Hui, W. Shi, D. Xu, et al, (2001). Analysis of the influencing factors of the rescue of soldiers PTAD in Yantai Beach. Chinese Mental Health Journal, 15(3),148-149.
7. J. C. McMillen, C. S. North, E. M. Smith, (2000). What Parts of PTSD Are Normal: Intrusion, Avoidance, or Arousal? Data from the Northridge, California, Earthquake.Journal of Traumatic Stress, 13, 57-75. DOI: https://doi.org/10.1023/A:1007768830246
8. C. Zhao, X. Wang, L. Gao et al, (2000). Follow-up study of post-traumatic stress disorder in Zhang Bei, Shangyi earthquake. Chinese Mental Health Journal, 14(6), 361-363.
9. S. Madakasira, K. F. O' Brien, (1987). Acute posttraumatic stress disorder in victims of a natural disaster. Journal of Nervous and Mental Disease, 175(5), 286-290. DOI: https://doi.org/10.1097/00005053-198705000-00008
10. S. W. Turner, J. Thompson, R. M. Rosser, (1995). The kings cross fire: Psychological reactions. J Trauma Stress 8, 419-427. DOI: https://doi.org/10.1007/BF02102967

11. M. A. Kidson, J. C. Douglas, J. Holwill, (1993). Post-traumatic stress disorder in Australian World War II veterans attending a psychiatric outpatient clinic. The Medical Journal of Australia, 158(9). DOI: https://doi.org/10.5694/j.1326-5377.1993.tb121877.x
12. S. Galea, J. Ahern, H. Resnick, et al, (2002). Psychological Sequelae of the September 11 Terrorist Attacks in New York City. N Engl J Med, 346:982-987. DOI: https://doi.org/10.1056/NEJMsa013404
13. M. He, R. Wu, X. Zhang, et al, (1993). Post-traumatic stress disorder in rollover survivors. Chinese Mental Health Journal, 7, 341-363.
14. G. Liu, L. Yang, X. Xu, et al, (2002). Study on traumatic stress disorder after a car accident. Chinese Mental Health Journal, 16(1), 20.
15. C. L. Alter, D. Pelcovitz, A. Axelrod, et al, (1996). Identification of PTSD in Cancer Survivors. Psychosomatics, 137-143. DOI: https://doi.org/10.1016/S0033-3182(96)71580-3
16. B. L. Green, (1994). Psychosocial research in traumatic stress: An update. Journal of Traumatic Stress, 7, 341-362. DOI: https://doi.org/10.1002/jts.2490070303
17. J. Kroll, (1989). Depression and posttraumatic stress disorder in Southeast Asian refugee. The American journal of psychiatry, 146(12), 1592-1597. DOI: https://doi.org/10.1176/ajp.146.12.1592
18. M. Driessen, T. Schroeder, B. Widmann, C. Schönfeld, F. Schneider, (2006). Childhood Trauma, Psychiatric Disorders, and Criminal Behavior in Prisoners in Germany: A Comparative Study in Incarcerated Women and Men. The Journal of Clinical Psychiatric.
19. [19] R. Yehuda, S. L. Halligan, R. Grossman, (2001). Childhood trauma and risk for PTSD: Relationship to intergenerational effects of trauma, parental PTSD, and cortisol excretion. Development and Psychopathology, 13(3) , 733-753. DOI: https://doi.org/10.1017/S0954579401003170
20. V. Jolene (2017). From Combat Veterans to Criminals: Posttraumatic Stress Disorder and Criminal Justice Involvement. Walden University ProQuest Dissertations Publishing, 10622499.
21. S. Yu, Y. You, H. Xu, (2013). Depressive symptoms and influencing factors of teachers with chronic post-traumatic stress disorder. Chinese Journal of health psychology, 21(7), 1025-1027.
22. M. S. Harned, L. M. Najavits, R. D. Weiss, (2010). Self-Harm and Suicidal Behavior in Women with Comorbid PTSD and Substance Dependence. The American Journal on Addictions, 15(5), 392-395. DOI: https://doi.org/10.1080/10550490600860387
23. S. Maguen, D. D. Luxton, N. A. Skopp, et al, (2011). Killing in combat, mental health symptoms, and suicidal ideation in Iraq war veterans. Journal of Anxiety Disorders, 25(4),563-567. DOI:https://doi.org/10.1016/j.janxdis.2011.01.003
24. Y. Li, W. Gao, (2014). Risk analysis of suicide in patients with PTSD. World Latest Medicine Information, 1671-314. DOI:https://doi.org/10.3969/j.issn.1671-3141.2014.15.155
25. L. Hyer, J. H. Fallon, W. R. Harrison, (1987). MMPI overreporting by Vietnam combat veterans. Journal of Clinical Psychology, 43(1), 79-83. DOI:https://doi.org/10.1002/1097-4679(198701)43:1%3C79::AID-JCLP2270430110%3E3.0.CO;2-P
26. K. T. Brady, T. K. Killeen, T. Brewerton, S. Lucerin, (2000). Comorbidity of psychiatric disorders and posttraumatic stress disorder. The Journal of Clinical Psychiatry, 61(7), 22-32. PMID: 10795606
27. N. K. Rytwinski, M. D. Scur, N. C. Feeny, E. A. Youngstrom, (2013). The Co-Occurrence of Major Depressive Disorder Among Individuals with Posttraumatic Stress Disorder: A Meta-Analysis. The Journal of Traumatic Stress, 26(3), 299-309. DOI:https://doi.org/10.1002/jts.21814
28. D. G. Campbell, B. L. Felker, C. F. Liu, et al, (2007). Prevalence of Depression–PTSD Comorbidity: Implications for Clinical Practice Guidelines and Primary Care-based Interventions. J GEN INTERN MED,22, 711–718. DOI: https://doi.org/10.1007/s11606-006-0101-4