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A review of post-traumatic stress disorder

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Abstract: With the development of technology and the passage of time, people's material needs have been constantly met, and mental health has become more and more important. In 2020, the coVID-19 pandemic is sweeping the world. In the face of such a serious public health safety incident, people not only pay attention to their own safety issues, but also suffer from stress, trauma and emotional distress. Post-traumatic stress disorder is a kind of reactive mental disorder. With the in-depth research on mental health, the research in this field is also making new achievements. This article summarizes existing research on PTSD from the perspectives of its basic concept, risk factors, cognitive theory, diagnosis and treatment, which can be an important implication for future research in this field.

Keywords: Post-traumatic stress disorder; Pathogenic factors; Cognitive theory; Diagnosis; Treatment; Mental disorders

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1. Post-traumatic stress disorder

1.1 Concept Definition

Post-traumatic stress disorder (PTSD) is a delayed response to a major threatening or catastrophic emergency event, and is one of the few mental disorders with a relatively clear source[1]. Stress disorder can be divided into three types, acute stress disorder, post-traumatic stress disorder and tardy post-traumatic stress disorder. PTSD usually appears between one month to six months and has the serious consequences which can be caused by traumatic events[2]. It is characterized by repeated reenactments of traumatic events, avoidance of activities and situations suggestive of trauma, increased arousal, and some other symptoms of emotional, thinking, behavioral and physical.

1.2 Epidemiological study

The American Psychiatric Association (APA) statistical results show that the overall prevalence of PTSD in the United States is 1-14%, with an average of 8%, and an individual's lifetime risk of developing PTSD is 3-58%. The lifetime prevalence of PTSD in women is twice as high as in men[3]. At the same time, researchers in the United States have found that 25-30% percent of people who have experienced traumatic events have PTSD[4]. There are many risk factors of PTSD, such as the types of traumatic events, the history of individual psychological, behavioral abnormalities and the post-traumatic life events. In addition to these, 80% of people with PTSD experience other psychological disorders, such as depression, anxiety, etc.[5].

2. Pathogenic factors

2.1 Traumatic events

PTSD has been found after war trauma first time, and as the concept of trauma expands, physical and emotional traumatic events can also lead to PTSD. The experience of traumatic stress events is the direct cause and a necessary condition for the diagnosis of PTSD. The relationship between traumatic events and PTSD firstly depends on the nature of the event. Resnick et al.[6] studied a sample of 4,008 individuals for 6 months and found that victims of violent crimes had a significantly higher PTSD rate (25.8%) than victims of non-violent crimes (9.4%).

At the same time, traumatic events are not limited to direct experiences, people who experience them indirectly, such as witnessing the injury or death of another person, can also improve PTSD development. So in general, typical traumatic events include violent attacks, traffic accidents, kidnappings, natural disasters, sudden sightings of someone dead or injured and so on.

2.2 Susceptibility factors

2.2.1 Demographic variables

One study showed that the PTSD prevalence of women is about twice as men[3], at the same time, age seems to have impact on PTSD. Norris et al. found that the incidence of PTSD among young people is higher than others[7], but this conclusion has not been widely confirmed, which may be due to the stress source, the object of study and diagnostic tools, etc. Norris et al. also found that more men than women and more whites than blacks were exposed to traumatic events, and that black men were the most susceptible to traumatic events, so race might also be a risk factor for PTSD.

2.2.2 Individual factors

In terms of individual physiological factors, True et al. found that genetic factors were responsible for all symptoms of PTSD after surveying 4,042 male twins

with PTSD[8]. In terms of individual psychological factors, existing studies have shown that introverted individuals are more likely to suffer from PTSD. A survey of 256 traffic accident victims indicated that individuals with neurotic tendencies had higher anxiety levels, and anxiety levels were correlated with PTSD[9]. Hunt et al. found that individuals with high emotional quotient (EQ) were less likely to show symptoms related to traumatic experience, the coping strategies of individuals were also related to the level of EQ[10]. At the same time, the individual's own cognitive pattern also has an impact on whether the victim develops PTSD after the traumatic event. Besides, Dunmore et al. found that cognitive processes at the time of a traumatic event, assessment of the consequences of the attack, negative beliefs about oneself and the outside world, and control measures taken for maladjustment were all predictors of PTSD[11].

2.2.3 Other factors

One study showed that risk factors for PTSD included low education, childhood behavioral problems, neurotic tendencies, introversion, and a family history of mental disorders or substance abuse[12]. Other recognized risk factors include past traumatic exposure, other negative sexual events before and after the traumatic event, unstable family structure, poor family status, poor physical health and so on.

3. Cognitive theory

Various cognitive theories of PTSD share some of the same basic assumptions, namely individual deposits to the world of the model or beliefs may step in to the traumatic experience, such as death and disease may not happen in their own easily and so on. When the information be provided by the traumatic experiences do not agree with their own beliefs, the individual will be trying to assimilate the information. If the integration doesn't success, it will lead to all sorts of post-traumatic reaction, just as PTSD. The current cognitive theory of PTSD is as follows.

3.1 Social cognition theory

The social cognitive theory of PTSD lays stress on the impact of trauma on individual life and emphasizes the difficulties that individuals need to integrate their traumatic experience. Horowitz's stress response theory is one of the social cognitive theories to explain PTSD, focusing on the cognitive processing of traumatic information[13]. The theory holds that the driving force of cognitive processing is a gestalt tendency, and it is a psychological need to integrate new information into the cognitive model of pre-storage. Horowitz thinks that it is difficult for people to blend the information of traumatic events with pre-existing model, then psychological defense mechanisms play a role at this time to repress trauma information to the unconsciousness. However, gestalt tend to protect the information in memory activation in order to integrate continuously, thus the psychological defense mechanism breaks down, forcing the traumatic information back into consciousness. This failure to process information leads to a persistent post-traumatic response, known as PTSD[14].

3.2 Information processing theory

The information processing theory of PTSD concerns the fear associated with trauma and how trauma-related information is represented and processed. The theory proposed by Foa et al. is representative. In addition, there are cognitive activity theories proposed by Chemtob et al., and cognitive processing theories proposed by Creamer et al.

The theory of information processing proposed by Foa et al. revolves around the fear network formed in memory. This network contains the following information: the stimulus information of the traumatic event, information about people's cognitive, behavioral and psychological responses to trauma, as well as information linking stimuli and responses. Inducing stimulation activates the fear network, causing information to enter consciousness and forming obsessive recall symptoms. Only by integrating information from the fear network with existing memory structures can eliminate PTSD[15].

3.3 Dual presentation theory

The dual representation theory of PTSD was proposed by Brewin et al., integrating the social cognition theory and the information processing theory[16]. The theory thinks that traumatic experiences form dual representations. One representation is the conscious experience of trauma, called Verbal Accessible Knowledge (VAM), which can be extracted from its own experience and contains sensory information about the traumatic situation, emotional and psychological reactions, and understanding of the traumatic event. The other property is formed through unconscious processing of traumatic situations and is called Situationally Accessible Knowledge (SAM). When individuals are in a background that is similar to the physical characteristics or meaning of traumatic situations, this property automatically switches on. Along with these two kinds of representations, there are two different emotional reactions, while the representation of traumatic events will produce three kinds of results after emotional processing. The first is the successful integration, the second is the failure of the trauma information and the pre-memory model to integrate,

and the third is the immature inhibition of emotional processing, seemingly recovering from the trauma, but the unprocessed memory can still be activated under certain circumstances.

The dual representation theory sees PTSD as an unsuccessful adaptation to trauma. It is a fusion of theories that gives a fuller explanation for PTSD, but it is also messy. So as PTSD gets more researches and the theory becomes more concise. The dual representation theory may become more recognized and understood and play a larger role.

4. Diagnosis, evaluation and treatment

4.1 Diagnosis and assessment of PTSD

Diagnostic criteria for PTSD appeared for the first time in DSM-III, and is listed as one of a kind of anxiety disorders. It was subsequently revised and expanded in the manual, and in 1993 PTSD was formally included in ICD-10, and CCMD-3 firstly used the name and included it in stress-related disorders.

The diagnosis of PTSD may begin with an assessment, which serves two main purposes: diagnosis and treatment planning. PTSD is often associated with other psychological disorders, multiple perspectives and multidimensional assessments can help diagnose the full range and form of symptoms. PTSD differs from other psychological disorders, it evaluates very severe traumatic events and some of the subjective responses that result in the individual. An important step in the evaluation is to determine the major traumatic events in the history, including the event itself and the scope and frequency of the event. It can be determined by using the Traumatic Stress Schedule, the Traumatic Events Questionnaire, etc.[17]. After the occurrence of a traumatic event, a comprehensive assessment of all aspects of the victim should be carried out in a timely manner according to the event type and combined with the risk factors of PTSD.

4.2 Treatment of PTSD

After a timely diagnosis and evaluation, the treatment phase can proceed. There is no consensus on the preferred treatment for PTSD at present, the combination of psychotherapy and medication is widely recognized, social support is also important in PTSD remission.

4.2.1 Psychotherapy

Psychotherapy is an important treatment for PTSD and is more effective than psychotropic drugs. There are five common treatments. The first approach is Stress Inoculation Training (SIT), which is a cognitive behavior technique for preventing stress disorder first proposed by Meichenbaum et al. The purpose of it is to teach clients some skills to help them better cope with stress and control fear. It is mainly divided into concept stage, skill acquisition and retelling stage, application and completion stage[18]. The second approach is systematic desensitization therapy, which is mainly used to reduce and relieve the anxiety state. This approach uses relaxation training to desensitize the fear stimulus by visualizing the exposure of different levels of fear stimulus from low to high. This approach is not widely used because individuals with PTSD tend to be afraid of many trauma-related stimuli, so the number of levels is more demanding and treatment is less effective. The third approach is prolonged exposure and visual exposure therapy. Both of them are extensions of exposure therapy, where the individual is directly exposed to the cues or traumatic memories that they fear, and tries not to shy away from them. The fourth approach is Cognitive Processing Therapy (CPT), which is based on information processing model. The underlying hypothesis is that PTSD symptoms are caused by conflicts between new information and old cognitive schemata. CPT focuses on identifying these conflicts and adjusting them. The final approach is Eye Movement Desen-sitization and Reprocessing(EDMR), which first founded by Shapiro, it considers eye movement can promote cognitive processing traumatic events. EDMR mainly works on memory images, negative thoughts and somatic feelings, aiming to promote the information processing of traumatic events and the negative cognitive reconstruction related to trauma. EMDR not only has components of eye movement desensitization, but also has components of exposure and cognition[19]. But this approach is still controversial because it comes not from theories of other psychological disorders, but from personal observation.

4.2.2 Drug therapy

Medication for PTSD can alleviate some symptoms, reduce the painful experience of the sufferer, and is often used as an adjunct to psychotherapy to increase adherence to psychotherapy. Currently, antidepressants, known as selective serotonin reuptake inhibitors (SSRIs), can significantly relieve anxiety and depression symptoms, improve sleep quality, and reduce avoidance symptoms. In addition, since the improvement of somatic symptoms can affect the individual's mood, corresponding drug therapy should be given timely according to the individual's somatic symptoms after the occurrence of the traumatic event.

4.2.3 Social support

Research suggests that the key to returning from trauma to a normal state is support within the family[20]. Good family and social support is a protective factor for PTSD. For victims, care and support from family members, social assistance, and

psychological intervention can be powerful social support and help reduce the risk of PTSD.

5. Conclusion

An important feature of today's society is to enter the risk society. Frequent occurrence of sudden disasters is an important feature of the risk society. From the serious earthquake to the coVID-19 epidemic sweeping the world today, the psychological trauma brought by disasters has undoubtedly become an important issue affecting individuals, families and even the whole society. Not only these, in our society, there are still a variety of risk factors, such as violence and aggression, which can cause psychological trauma. As a very common psychological disorder after traumatic experience, PTSD is the focus of research in the field of crisis intervention. PTSD is a complex mental disorder that is closely related to the individual's physical and mental condition, social support system, and other factors, which has attracted worldwide attention. However, the characteristics, patterns, and mechanisms of PTSD are still unclear and need to be further studied. In the future, more in-depth studies can be carried out in relevant aspects to reveal the characteristics and rules of the disease, so as to achieve better prevention and treatment.

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