Dissociative Identity Disorder: Understanding of DID, Symptoms and Causes

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***Abstract*—Dissociative Identity Disorder (DID), which is also known as Multiple Identity Disorder, is characterized by two or more distinct personalities exist within the same person. However, it is very common in reality. In order to have better knowledge about DID, this paper introduce DID from several aspects. The first is some basic facts of DID about how DID happens in reality. Second, symptoms will be mentioned by including DSM-5 diagnostic criteria which is used when diagnosing patients in the medical profession. Finally, the most important research orientation is the causes of DID about childhood experience and influences. As the conclusion, people should learn more about the disease from aspects of current data source, brain function, symptoms, and causes, not just based on the perception of film or media; meanwhile, it is significant to remind people to attach more importance to children development and their mental health.**

***Index Terms*—dissociative identity disorder, alters exhange, neuroanatomy of dissociative identity disorder, DSM-5 diagnostic criteria, childhood experiences and influences**

I. Introduction

Many films such as Identity, Split, and The Insanity have mentioned Dissociative Identity Disorder, in which most of the scenarios are distillations or climaxes by introducing the concept of this disorder.

As a result, it is easy for audiences to misunderstand the disease due to the exaggeration effect by film and media In fact, for Dissociative Identity Disorder (DID), "it is characterized by a disruption in memory, self-awareness, identity, or perception. People with this disorder develop one or more alternate and distinct identities, known as 'alters' ..., People with multiple personality disorder, or DID, will experience gaps in autobiographical memory, including personal details, daily activities, and traumatic events" [1]. Understand the interaction and influence between main personality and sub-personalities is the key to know this disease. Symptoms and causes are also two significant aspects when studying a disease. Therefore, in order to make a distinction among some other easy-confused disorder, like schizophrenia, symptoms of DID will be mentioned in this paper. Additionally, the guide of diagnosing DID, like DSM-5 diagnostic criteria, will also be included in the following. Nowadays, most people express that they don't believe this disease happens in real life, which has led to low public awareness of the disease, but for people with dissociative personality disorder, it affects their daily lives, like working, studying, or even managing relationships. Also, self-harm and suicidal behavior are particularly common among people with this disorder. In fact, more than 70 percent of patients have attempted suicide [1].

II. Basic Understanding of DID for Public

First, DID is a dissociative disorder, not a psychosis or personality disorder, and also it needs to be distinguished with schizophrenia, which is an easy-confused disorder when compared with DID. Schizophrenia is a kind of psychotic disorder, and the thing that is always mixed up by people is the "split mind", because "this was meant to describe the 'split' from reality that you experience during an episode of psychosis, as well as changes in thoughts, emotions, and other functions. Dissociative identity disorder, on the other hand, does cause a split or fragmented understanding of a person's sense of themselves" [2]. To put it simply, people with schizophrenia sometimes hear or feel things that aren't real or believe things that can't be true, but they are still themselves, not separate identities. However, DID people with DID sometimes seem to be a different person.

Second, DID is not a myth or uncommon, the fact is that "Only around 6% of people with DID make their diagnosis obvious on an ongoing basis", and "Dissociative Identity Disorder is not rare, but relatively common, affecting around 1-3% of the population" [3].

Third, one with DID often changes into another person. And such personality changes are always called "main personality" and "sub-personalities", which also be known as "alters" or "Apparently Normal Part (ANP)" and "Emotional Part (EP)". There is a conflict between ANP and EP, because they exchange with no fixed time or situation. However, every personality is independent. They do not influence each other, with their independent memory.

Finally, how the brain part works for DID people is important to know. A landmark paper by Vermetten et al. demonstrated a bilateral reduction in hippocampal and amygdala volume of 1 in patients diagnosed with DID, and that because many patients diagnosed with DID experience trauma early in their development [4], [5]. In addition, another research observed that "stressful events

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that occur while the brain is still undergoing major developmental changes impairs the viability of proliferating hippocampal cells due to the excitotoxic levels of CRH (a hormone released by the stress response) that are attenuated at the hippocampus by recurrent episodes of abuse that are characteristic of the history of patients with D.I.D" [5], [6]. The loss of the hippocampus may lead to memory impairment, which may explain why DID patients can't remember events when switching to different alters. Moreover, an experiment with mice concluded the result of a size reduction of the amygdala. Decrease in the amygdala may also play an important role in one of the DID symptoms, since the structure of the amygdala is sometimes linked to the hippocampus in the formation of long-term memories, and may affect emotional regulation too [5].

There are not only structural neuroanatomical differences between DID patients and normal people, but also functional neuroanatomical differences. A recent study by Sar et al. has confirmed that by using SPECT imaging, there was a significant reduction in cerebral blood flow in bilateral DID patients in the prefrontal region of the brain as shown in Fig. 1 [7], [8]. In the figure, DID patients showed significantly reduced cerebral blood flow in the orbitofrontal cortex, with blue areas represented by white arrows. A healthy person, on the other hand, has cerebral blood flowing through the entire brain, which can be seen in the bright red panel on the right of the image. The orbitofrontal region of the brain is involved in a number of higher cognitive function tasks, such as emotion regulation and information suppression control, which allows the brain to selectively act on incoming information before further processing it [5].

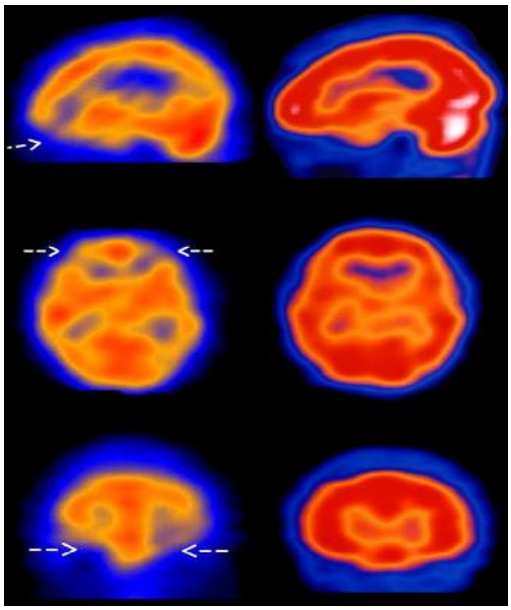

Figure 1. Comparative SPECT scan of an individual with D.I.D (Left) and a healthy control (Right).

For DID patients, brain blood flow happens in the bilateral posterior associative cortex and medial prefrontal cortex regions during the transition from one alter to another. It makes sense that patients would show this change because the medial prefrontal cortex is closely associated with maintaining a sense of self.

There are two different types of identity states: the neutral identity state, the most commonly used, and traumatic identity state. This can explain biological aspect of alters exchange.

In Fig. 2 [9], it shows when a neutral state switches into a traumatic identity state. Areas that deal with negative emotions are activated (red) when in the traumatic identity state. In the contrast, patients in the neutral state typically show less activation, indicating the protective function of the neutral status against traumatic stimuli. And neither type of dissociation activates the same region when the same stimulus is displayed, which can be explained as such an identity state protects the patient from reliving their traumatic experiences.[5]

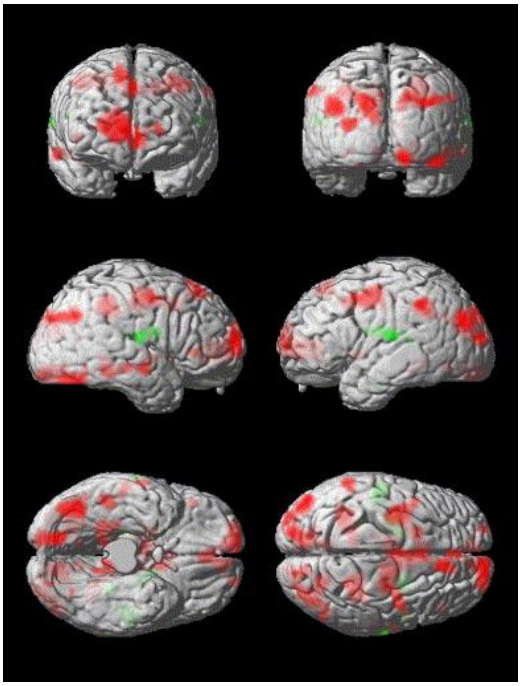

Figure 2. PET scans of DID patients. Different brain areas are activated when patients are in different states of dissociation and are subjected to traumatic stimulation.

III. Symptoms

When talking about symptoms for DID, it is important to introduce criteria for diagnosing. First one is the DSM-5 Diagnostic Criteria. It is a manual that health care professionals in the U.S. and most of the world use as the definitive guide for the diagnosis of mental illness, which contains descriptions, symptoms, and other criteria for diagnosing mental disorders [10]. The following is what the DSM-5 gives of a diagnostic criteria for Dissociative Identity Disorder:

Code 300.14

Disruption of identity characterized by two or more distinct personality states, which may be described in some cultures as an experience of possession. The disruption of marked discontinuity in the sense of self

and sense of agency, accompanied by related alterations in effect, behavior, consciousness, memory, perception, cognition, and sensory-motor functioning. These signs and symptoms may be observed by others or reported by the individual.

Recurrent gaps in the recall of everyday events, important personal information, and traumatic events inconsistent with ordinary forgetting.

The symptoms cause clinically significant distress or impairment in social, occupational, or other important functioning areas.

The disturbance is not a normal part of a broadly accepted cultural or religious practice. Note: In children, the symptoms are not better explained by imaginary playmates or other fantasy play.

The symptoms are not attributable to the physiological effects of a substance (e.g., blackouts or chaotic behavior during alcohol intoxication) or another medical condition (e.g., complex partial seizures) [11].

People with DID have their alternative personalities, or "alters". Sometimes alter exchanges are very obvious, but when some alters are hard observed, there are two criteria that can be helped to further identify it: Sudden alterations or discontinuities in the sense of self and sense of agency (Criteria A), and recurrent dissociative amnesias (Criteria B) [12].

"Sense of self" and "sense of agency", which describes the discontinuity or switching between alters and their existences. "Sense of self" means a person's attitudes, opinions, and preferences, such as favorite foods or clothes, can change suddenly and inexplicably, and then change back again. This is because alternative personalities have different attitudes, perspectives and preferences, and the change depends on the occurrence of alters. "Sense of agency" describes the experience of having thoughts, emotions or actions that seem "not mine" or belong to someone else. This happens in DID because some alternative personality thoughts, feelings or actions invade the patient's consciousness, even though the patient may neither know he has an alternative personality nor forget what he has done [12].

As for Criteria B, "in DID, total amnesia for the actions of alter personalities is not necessary - it is possible for a person to be aware of many of their actions at the time, known as co-consciousness, or remember some of what happened later". There are several different types of amnesia for DID people. The first one is "gaps in past memory of personal life events". For example, the person might forget about events that happened in his childhood. Second, "lapses in dependable memory" refers to memories related to specific ability, like reading, driving, or working. The third is "discovery of evidence of their everyday actions and tasks that they do not recollect doing". Dissociative roaming is common, that is, travelling to unusual places without any memory of the journey or its purpose [12].

IV. Causes of DID

Childhood trauma leading to DID is the common understanding of the causes of DID for most people. Just like in the movie Identity, the main character grew up in a low-income family. His parents always mistreated him when he was young without fulfilling any responsibility as parents, so hatred grew in him. When he was a child, he could only pretend to be another person. He imagined being protected and cared. Thus, his personalities were gradually separated, and then lived in his little world.

A journal shows three controversial hypotheses of the development of DID. The first hypothesis is called the Trauma Model. A traumatic experience that usually occurs in childhood. Therefore, a healthy family relationship and the way parents raise and treat their children can make a big difference in a child's life. A data source shows that DID occurs more frequently in childhood due to mental trauma, which occurs before the age of 4, and symptoms are reflected at the age of 6-7. Thereby, the environment and atmosphere of the original family are very important to mould a child by building up the capacity to integrate, self-regulate and develop a sense of trust and safety. Personality separation is the victim's first defense way; it's called "the escape when there is no escape" [13].

Another hypothesis explaining the cause of DID is the Fantasy Model. This model refers to DID as a socially cognitive or non-trauma-related model associated with behavior, sleep disorders, suggestive psychotherapy, and/or sociocultural influences [13].

The final hypothesis mentions that it is a severe symptom of Borderline Personality Disorder (BPD). BPD is "a pervasive pattern of instability of interpersonal relationships, self-imagine, and affects, and marked impulsivity" [11]. People with BPD have an unhealthy fear of being abandoned, whether real or imagined, unstable relationship patterns, impulses in at least two areas may self-harm, and other symptoms. BPD is also characterized by identity disorder and transient, stress-related paranoid thinking or severe dissociation symptoms; Therefore, it is believed that DID is one of these symptoms [13].

All three hypotheses seem plausible, but the first has the upper hand. In a study, which conducted by Vissia et. al, compared individuals with DID, Post-Traumatic Stress Disorder (PTSD), individuals simulating DID and healthy participants. They used self-report questionnaires, which measured variables of trauma and fantasy, and divided participants into two groups. Participants with DID scored highest on trauma tests, not likely to fantasize, be suggestive or have more false memories. Therefore, the evidence of this experiment supports the trauma model of DID [13]. For the hypothesis of BPD, Laddis, Dell, and Korzekwa conducted a study in which they compared DID and BPD symptoms and mechanisms of separation. The study showed that changing identities seemed to occur most in patients with DID, while only 24 percent of BPD patients showed alternately driven separative experiences. Although there are many similarities between the two diseases, that doesn't mean they are the same [13].

Because DID is common to appear during childhood, attachment theory in psychological aspects is considered by people to explain the development of DID. There are four basic categories for attachment styles, secure attachment, ambivalent-insecure attachment, avoidant-insecure attachment, and disorganized-insecure attachment. The thing that is related to DID is called disorganized attachment, which arises from the parent's continued failure to respond or inconsistent response to the child's fear or painful feelings. There have been consistent findings in several studies suggesting that disorganized attachment styles in infancy predict dissociative symptoms in adolescence and young adulthood. Disorganized attachment behavior is often characterized by freezing, dizziness, or trance states, which have phenotypic similarities to dissociation [14].

V. Conclusion

This paper discusses Dissociative Identity Disorder from aspects of basic current data source, brain function, symptoms, and causes. In order to explain that DID is not a mystery, this paper discusses the differences between DID patients and normal people in neuroanatomical structure and function through biological and brain studies, and also mentions the outline DSM-5 for distinguishing symptoms. Finally, it leads to the cause of DID. Among the three hypotheses, the traumatic explanation is the most convincing.

After the realization, another important part is raising awareness of children's development, just like the attachment styles mentioned in the previous part. We already know that the psychological shadow of childhood more often causes the disease. Therefore, a proper company by parents or anyone else around children contribute to having healthy children.

If a child is found to have symptoms of DID early on, early intervention is significant, because the more susceptible an individual is, the greater the chance of cure.

Conflict of Interest

The author declares no conflict of interest.

Author Contribution

This paper is independently completed by the author.

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Reference

[1] Menclinics. Multiple personality disorder. [Online]. Available: https://www.amenclinics.com/conditions/multiple-personality-disorder-dissociative-identity-disorder/

[2] Canadian Mental Health Association, BC Division. (2015). What's the difference between dissociative identity disorder (multiple personality disorder) and schizophrenia? [Online]. Available: https://www.heretohelp.bc.ca/q-and-a/whats-the-difference-between-dissociative-identity-disorder-and-schizophrenia

[3] International Society for the Study of Trauma and Dissociation. (2011). Guidelines for treating dissociative identity disorder in adults, third revision: Summary version. *Journal of Trauma & Dissociation*, vol. 12, no. 2, pp. 188-212, 2011.

[4] E. Vermetten, C. Schmahl, S. Lindner, R. Loewenstein, and J. Bremner, "Hippocampal and amygdalar volumes in dissociative identity disorder," *American Journal of Psychiatry*, vol. 163, no. 4, pp. 630-636, 2006.

[5] University of Toronto. (2014). Neuroanatomy of dissociative identity disorder. [Online]. Available: http://neurowiki2014.wikidot.com/individual:neuroanatomy-of-dissociative-identity-disorder

[6] K. L. Brunson, Y. Chen, S. Avishai-Eliner, and T. Baram, "Stress and the developing hippocampus a double edged sword?" *Molecular Neurobiology*, vol. 27, no. 2, pp. 121-136, 2003.

[7] V. Sar, S. N. Unal, and E. Ozturk, "Frontal and occipital perfusion changes in dissociative identity disorder," *Psychiatry Research: Neuroimaging*, vol. 156, no. 3, pp. 217-223, 2007.

[8] A. A. T. S. Reinders, E. R. S. Nijenhuis, A. M. J. Paans, J. Korf, A. T. M. Willemsen, and J. A. D. Boer, "One brain, two selves," *Neuroimage*, vol. 20, no. 4, pp. 2119-2125, 2003.

[9] A. A. T. Reinders, E. R. Nijenhuis, J. Quak, J. Korf, J. Haaksma, A. M. Paans, *et al.*, "Psychobiological characteristics of dissociative identity disorder: A symptom provocation study," *Biological Psychiatry*, vol. 60, no. 7, pp. 730-740, 2006.

[10] American Psychiatric Association. DSM-5: Frequently asked questions. [Online]. Available: https://www.psychiatry.org/psychiatrists/practice/dsm/feedback-and-questions/frequently-asked-questions

[11] American Psychiatric Association. *Diagnostic and Statistical Manual of Mental Disorders: DSM-5*, 5th ed.. Washington, D.C.: American Psychiatric Association, 2013.

[12] Dissociative identity disorder. [Online]. Available: http://traumadissociation.com/dissociativeidentitydisorder.

[13] A. A. Reategui, "Dissociative identity disorder: A literature review," *Undergraduate Journal of Psychology*, vol. 31 no. 1, 2019.

[14] S. Wilkinson and M. DeJong, "Dissociative identity disorder: A developmental perspective," *BJPsych Advances*, vol. 27, no. 2, pp. 96-98, 2020.

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