

## A Review of Obsessive-Compulsive Disorder

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**Keywords:** Obsessive-compulsive disorder, Obsessive-compulsive psychology, Obsessive-compulsive behavior, Intervention

**Abstract:** Obsessive compulsive disorder (OCD) is a neurosis with repeated forced thinking and forced behavior. The author combs from the aspects of measurement, psychological characteristics of obsessive-compulsive disorder, intervention and new progress. In terms of measurement, the measurement of obsessive-compulsive disorder has been introduced from pure to localized improvement. In terms of the psychological characteristics of obsessive-compulsive disorder, the author summarizes it from two aspects: General Psychology (personality, cognitive processing, cortical structure) and obsessive-compulsive Psychology (obsessive-compulsive belief, obsessive-compulsive symptoms and childhood inducement of obsessive-compulsive disorder). In the intervention of obsessive-compulsive disorder, the author mainly discusses the assistance and cooperation of relevant treatment methods from cognitive behavior therapy, metacognitive therapy and other treatment methods with cognition as an important factor. In terms of the new progress in the treatment of obsessive-compulsive disorder, the author found that some new disciplinary perspectives (microbial perspective, genetic perspective, neural circuit perspective and drug synergistic treatment perspective) may make new contributions to the treatment of obsessive-compulsive disorder.

### 1. Introduction

Goodman (1989) compiled the Yale Brown scale, which is a semi-fixed scale specially used to evaluate the type and severity of symptoms in patients with obsessive-compulsive disorder<sup>[1]</sup>. The scale has become the most widely used scale in the theoretical research and practice of obsessive-compulsive disorder in China. The scale has 10 items and is divided into two subscales, 5 items of obsessive-compulsive concept and 5 items of obsessive-compulsive behavior. Each item is divided into 0-4 levels according to degree or frequency / time. The total score of Y-BOCS can represent the severity of obsessive-compulsive symptoms. The higher the score, the more serious the obsessive-compulsive symptoms are. Xu Yong and Zhang Haiyin (2006) verified the Chinese version of Yale Brown scale and found that Y-BOCS showed good internal consistency reliability, cronabach  $\alpha$  Is 0.75<sup>[2]</sup>.

Wang Chenyi et al. (2012) introduced the multidimensional Obsessive Compulsive Scale (DOCS)<sup>[3]</sup> developed by Abramowitz (2010) into China and revised it among Chinese college students<sup>[4]</sup>. The scale has 20 items and is divided into five dimensions: symmetry, unacceptable ideas, sense of responsibility, pollution and symptom occupation time. The internal consistency coefficient of the total scale is 0.906, and the internal consistency coefficient of each subscale is 0.639 to 0.839; The test-retest reliability coefficient was 0.908, and the criterion validity was good.

Sun Zhenxiao (2020) introduced OCI-R<sup>[5]</sup> prepared by Foa (2002) and verified it in patients with obsessive-compulsive disorder<sup>[6]</sup>. There are 18 items in the scale, which can be summarized into five factors: cleaning and ranking of obsessive-compulsive symptoms, examination, obsessive-compulsive concept, mental neutralization and hoarding. Cronabach of the scale  $\alpha$  The coefficient is 0.81-0.93, and the test-retest reliability is  $r = 0.82$

Tang Suqin (2011) introduced OCI-R compiled by FOA (2002) and verified it among Chinese college students<sup>[7]</sup>. The scale has 18 items and is divided into 6 factors: cleaning, inspection, sorting, obsessive-compulsive concept, hoarding, mental neutralization. Cronabach of OCI-R total amount table in Chinese version  $\alpha$  The coefficient is 0.895, cronabach of each subscale  $\alpha$  The

coefficient is 0.593-0.826, the test-retest reliability of the total scale is 0.629, and the test-retest reliability of each subscale is 0.309-0.644

Interestingly, sun Zhenxiao (2020) and Tang Suqin also introduced and revised the OCI-R of FOA (2002), but the dimensions obtained are different. In the scale of sun Zhenxiao (2020), the two dimensions in the original scale were cleaned and sorted, and merged into one dimension. This result also shows the aggregation characteristics of different psychological characteristics in patients with obsessive-compulsive disorder.

## **2. Psychological Characteristics of Obsessive-Compulsive Disorder**

### **2.1 General Psychology**

Research shows that the personality dimension of patients with obsessive-compulsive disorder varies according to the degree of obsessive-compulsive disorder. Li Yan (2016) found that patients with severe obsessive-compulsive disorder scored higher in neuroticism dimension than patients with mild and moderate obsessive-compulsive disorder, and in the nine factor dimensions of SCL-90, the scores of patients with severe obsessive-compulsive disorder were higher than those of patients with mild and moderate obsessive-compulsive disorder<sup>[8]</sup>.

Research on cognitive processing of patients with obsessive-compulsive disorder shows that individuals with high obsessive-compulsive tendency have slower response speed and insufficient flexibility<sup>[9]</sup>. In terms of executive function, college students with high obsessive-compulsive traits may have more abnormal behaviors of executive function, and executive function indicators are helpful to identify high obsessive-compulsive traits<sup>[10]</sup>. The relevant evidence of event-related potential (ERP) shows that high obsessive-compulsive individuals show attentional bias towards obsessive-compulsive disorder related negative words, which is composed of attentional difficulty relief, both in P2 component in early automatic processing stage and LPPS component in late strategy processing stage<sup>[11]</sup>.

What are the reasons for the behavioral and cognitive differences between obsessive-compulsive patients and non obsessive-compulsive patients? Studies based on magnetic resonance scanning of brain structure showed that most cortex in OCD group showed decline compared with the control group. Cortical decline in some brain regions of normal population is related to poor prospective memory, while the relationship between cortical morphology and prospective memory in different brain regions of OCD group is different from that in control group<sup>[12]</sup>.

Research on children with obsessive-compulsive disorder shows that children with obsessive-compulsive disorder have extensive cognitive impairment, involving nonverbal ability, attention, memory and executive ability<sup>[13]</sup>.

### **2.2 Compulsive Psychology**

Obsessive compulsive symptoms of patients with obsessive-compulsive disorder are closely related to obsessive-compulsive beliefs and metacognition. The more perfectionism and beliefs that cannot tolerate uncertainty, uncontrollable and dangerous negative beliefs, the more serious obsessive-compulsive symptoms<sup>[14]</sup>.

Different symptom subtypes of obsessive-compulsive disorder patients are affected by different obsessive-compulsive beliefs and impulsive traits. Specifically, the level (or severity) of obsessive-compulsive examination is jointly affected by sense of responsibility / threat assessment beliefs and motor impulses; The level of forced ranking was significantly affected by perfectionism / certainty belief; The level of compulsive thinking is affected by the belief of responsibility / threat assessment; The level of mixed symptoms is jointly affected by sense of responsibility / threat assessment belief and attention impulse<sup>[15]</sup>. Moreover, different symptoms are affected by different beliefs. The symptoms of forced thinking and forced cleaning are greatly affected by the belief of sense of responsibility / threat assessment, and the symptoms of forced examination and forced arrangement are greatly affected by the belief of perfectionism / certainty<sup>[16]</sup>. In contrast, the study of 113 patients with obsessive-compulsive disorder by Wang Pei et al. Shows that the

behavior inhibition system of patients with obsessive-compulsive disorder may play a complete intermediary role between obsessive-compulsive belief and obsessive-compulsive disorder <sup>[17]</sup>.

As for the early childhood factors of the causes of obsessive-compulsive disorder, the research of Xu Tingting et al. (2017) shows that early emotional abuse may be positively correlated with obsessive-compulsive symptoms, and neurotic personality plays a complete intermediary role between emotional abuse and obsessive-compulsive symptoms <sup>[18]</sup>.

### 3. Intervention

Obsessive compulsive disorder (OCD) is an anxiety disorder with compulsive thinking and / or compulsive behavior. Its treatment has always been a difficulty in clinical treatment. Psychotherapy based on cognitive therapy includes cognitive behavior analysis, cognitive therapy from the perspective of metacognition, cognitive behavior therapy based on mindfulness and based on exposure and response prevention methods. Each method has its own characteristics in the treatment of OCD.

Wang Dongfang et al. (2018) conducted a meta-analysis of the efficacy of combined motivational interview and cognitive behavior therapy alone in the treatment of obsessive-compulsive disorder. The results show that the efficacy of motivational interview combined with cognitive behavior therapy group in the treatment of obsessive-compulsive disorder is significantly better than that of cognitive behavior therapy group alone <sup>[19]</sup>. Some researchers have explored the effect of applying a new treatment method - anxiety identification method in the treatment of obsessive-compulsive disorder. The results show that anxiety identification method can reduce the anxiety level, neutralize the desire level and alleviate the pain of obsessive-compulsive patients, and help obsessive-compulsive patients effectively manage obsessive-compulsive thinking <sup>[20]</sup>.

Combined with the popularization and application of the Internet in the Internet era, some researchers have explored the effect of network cognitive behavior therapy in the treatment of obsessive-compulsive disorder and health economics. The results show that network cognitive behavior therapy has a significant therapeutic effect on obsessive-compulsive disorder, and the therapeutic effect is equivalent to that of cognitive behavior therapy. Moreover, network cognitive behavior therapy is a lower cost, more cost-effective and effective treatment <sup>[21]</sup>.

Chai Xiaoyun et al. (2014) analyzed the characteristic model and intervention of obsessive-compulsive disorder from the perspective of metacognition <sup>[22]</sup>. The metacognitive model of obsessive-compulsive disorder holds that metacognition is the key to understand the pathology of obsessive-compulsive disorder. OCD patients have some problems, such as wrong metacognitive knowledge and beliefs, negative metacognitive experience and inappropriate use of metacognitive strategies. Metacognitive therapy for obsessive-compulsive disorder emphasizes the importance of thinking process (such as self focused attention, constant thinking style for worry and attention strategies for threat regulation), rather than the specific content of thinking, and shows good curative effect in the research of individual psychological intervention and group psychological intervention.

The effect of computer cognitive correction training (CCRT) on improving obsessive-compulsive disorder symptoms and cognitive function can only effectively improve some cognitive functions of obsessive-compulsive disorder patients, but can not directly promote the remission of obsessive-compulsive disorder symptoms <sup>[23]</sup>.

Image dialogue therapy and hypnotherapy have more advantages than general psychotherapy for OCD, and comprehensive psychological intervention is more effective for refractory OCD. Collective psychotherapy following the principle of group dynamics, Morita therapy and cognitive behavior therapy can effectively improve college students' obsessive-compulsive symptoms, and the curative effect is stable <sup>[24]</sup>.

Psychotherapy based on cognitive therapy combined with sertraline and other Western drugs in the treatment of OCD can change the negative cognition of patients, reduce the dosage and increase the compliance with drug treatment. It has shorter course of treatment and better curative effect than

single drug. Morita therapy, multimodal behavior therapy, systematic family therapy, group psychotherapy and other psychotherapy combined with western medicine in the treatment of OCD can significantly improve the effective rate compared with western medicine alone. The use of psychotherapy combined with surgery in the treatment of refractory depression can effectively alleviate patients' obsessive-compulsive symptoms and improve drug sensitivity <sup>[24]</sup>.

In addition, evidence of some new therapies for obsessive-compulsive disorder is also emerging, such as dance therapy, subjective and objective analysis psychotherapy, anxiety identification method. Cao Xiaoqiao (2021) took the theoretical frontier of dance movement therapy as the background, took three clinical cases of obsessive-compulsive disorder as the clue, and discussed a new way of dance movement therapy for obsessive-compulsive disorder by reshaping brain map through action evaluation, intervention methods, process analysis and result reflection <sup>[25]</sup>. Wang Yulu and Tang Denghua (2020) studied the subjective and objective analysis psychotherapy of a patient with obsessive-compulsive disorder. The results showed that after treatment, the obsessive-compulsive symptoms were relieved, the anxiety and depression were decreased, and the social function was improved <sup>[26]</sup>. Wang Jianyu (2015) confirmed that response exposure therapy is effective in the treatment of obsessive-compulsive disorder, and the effective factors are related to patients, therapists and treatment alliance <sup>[27]</sup>.

#### **4. New Progress**

Meng Qingyan (2019) combed the pathological study of children and adolescents with obsessive-compulsive disorder <sup>[28]</sup>. It believes that obsessive-compulsive disorder is a typical mental disorder, which has a lasting impact on the life and learning of children and adolescents. Multidisciplinary studies have explored the pathological mechanism of obsessive-compulsive disorder from different angles: imaging studies have found that the structural and functional connections of multiple brain regions, cerebral blood flow and brain tissue metabolism in children and adolescents with obsessive-compulsive disorder are abnormal; Biological studies have shown that there are abnormalities in neurotransmitter metabolism, genes and cytokines in children and adolescents with obsessive-compulsive disorder; Cognitive behavior research shows that children and adolescents with obsessive-compulsive disorder have different cognitive functions such as memory and attention from normal children.

In addition, some researchers have explored the treatment of obsessive-compulsive disorder from the perspective of new disciplines (Microbiology, genetics, neural circuit and synergistic treatment of drugs).

From the perspective of microorganisms, intestinal microbiota, as the key medium of brain gut two-way communication, plays an important role in immune inflammation, neuroendocrine and brain development. Zhang Yingdan and Wang Zhen (2021) reviewed the possible association between microbiota gut brain (MGB) axis and obsessive-compulsive disorder and the potential etiological pathway mediated by this axis, and discussed the treatment scheme of intestinal microbiota, a new target <sup>[29]</sup>. From the perspective of performance genetics, the occurrence and development of obsessive-compulsive disorder is the result of the joint action of gene and environment. Epigenetics provides a way and mechanism to explain the effect of environmental factors on individual heredity. Lin Liangjun et al. (2021) summarized the possible epigenetic modification changes of obsessive-compulsive disorder by summarizing the research on the epigenetics of obsessive-compulsive disorder in the literature, which is helpful to further understand the pathophysiological mechanism of the occurrence and development of obsessive-compulsive disorder <sup>[30]</sup>.

From the perspective of neural circuit, patients with obsessive-compulsive disorder not only have structural and functional abnormalities in CSTC circuit and other regions, but also have abnormal interactions within and between different brain networks, and are affected by drug treatment. At present, the research on the neural circuit of obsessive-compulsive disorder is not perfect. The research and development direction of obsessive-compulsive disorder in the future is to analyze the change track of obsessive-compulsive disorder circuit, explore the differences of neural circuit

abnormalities of obsessive-compulsive disorder with different phenotypes, and increase the research on neural circuit of obsessive-compulsive disorder in children <sup>[31]</sup>.

From the perspective of synergistic treatment of drugs, the most commonly used drug for the treatment of obsessive-compulsive disorder is selective serotonin reuptake inhibitor, but about half of the patients are ineffective. Antipsychotics are usually added as synergists in clinical treatment. Synergists can improve the symptoms of some patients, but they still have no synergistic effect on some patients <sup>[32]</sup>.

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