

Acupuncture and Moxibustion Treatment for Mental Disorder

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Mental disorders have the highest number of patients in the working-age population (15-64 years) [1]. It is important to reduce mental disorders in terms of labor productivity. The number of inpatients is decreasing, while the number of outpatients is increasing [2]. By disease, mood disorders are the most common, followed by neurosis, stress-related and somatoform disorders, schizophrenia, and dementia. In terms of increasing rate, neurosis, mood disorders, schizophrenia, and dementia follow in that order. Mood disorders have attracted attention because of their large number of patients and high rate of increase. Mood disorders are divided into bipolar disorder and depressive disorder. Depressive disorder includes depression.

At the morbidity cost of depression in Japan in 2008, the labor loss was 2.124 trillion yen, and the social burden resulting from depression is enormous [3]. The cost of mortality is also high, and effective suicide prevention interventions have the potential to curb the disease costs of depression. Mental disorders have been newly added to the four major diseases of cancer, stroke, acute myocardial infarction, and diabetes mellitus to become the

five major diseases [4].

Because people today are under high stress, the number of patients who receive acupuncture and moxibustion treatment for depressive state, mood swings, and anxiety is expected to increase in the future. In this paper, after presenting Western and Oriental medical treatments for mental disorders, the status of acupuncture and moxibustion treatment for depression, the most common mood disorder, is described.

The following is an overview of the major mental disorders [5].

Schizophrenia presents with symptoms such as impaired reality disorientation despite clear consciousness, hallucinations and delusions, as well as decreased motivation, impaired emotional expression, and slowness of action. The accepted pathogenesis mechanism is a vulnerability stress model. Individuals with high vulnerability are more likely to develop the disease when exposed to stress. The primary treatment is drug therapy.

Neurosis is a mental condition in which the patient is extremely anxious,

fearful, or obsessive compulsion to do something. The pathogenesis mechanism is unknown. The primary treatment is drug therapy.

Depression is characterized by abnormal in mood, thought, and motivation. The cause is said to be chronic stress. The pathogenesis mechanism is likely to be related to a decrease in serotonin- and noradrenaline-induced neurologic function, but this has not been confirmed. Supportive psychotherapy and drug therapy are used in combination. Activation of the serotonin nervous system, cognitive-behavioral therapy, and exercise therapy are important.

Psychosomatic disorders are conditions of physical diseases in which psychosocial factors are closely involved in the onset and course of the disease, and organic or functional disorders are observed. Physical therapy and drug therapy are combined.

Dementia is a condition that is the result of chronic impairment of the higher functions of the central nervous system for some cause. There are Alzheimer's, vascular, Lewy body, and frontotemporal types. The primary treatment is drug therapy.

In oriental medical treatment, the classification of patterns and prescriptions for major mental disorders are shown as follows [6].

"Diankuang" is an abnormality of the mind. It is divided into "dian" pattern and "kuang" pattern. The two are not clearly distinguishable in terms of symptoms and may occur alternately.

Dian pattern manifests itself in symptoms such as depressive state, dementia state, speech confusion, crying, laughing. Dian pattern is classified into two types: "stagnation of phlegm and qi" and "heart and spleen deficiency". For stagnation of phlegm and qi, HT7, PC7, EX-HN3, CV17, ST40, and SP6 are used. For heart and spleen deficiency, HT7, PC7, ST36, SP6, BL15, BL18, BL20 are used.

Kuang pattern manifests itself in symptoms such as manic mania, cursing and strange voices, delirium, anger. The pathological condition belongs to yang and is characterized by movement. Kuang pattern is classified into two types: "pyrophlegmatic fire harassing upward (tanhuoshangrao)" and "excessive fire injuring yin (huoshengyinshang)". For pyrophlegmatic fire harassing upward, PC8, GV26, CV14, KI4, HT7, and ST40 are used. For excessive fire injuring yin, GV26, CV14, HT7, PC7, SP6, and KI3 are used.

"Yu" pattern is caused by stagnation of qi due to the melancholy of passions. Symptoms of Yu pattern include complex symptoms such as depression, emotional instability, thoracic fullness, pain, anger, frequent crying, a feeling of blockage in the throat, and insomnia. It is helpful in the treatment of neurosis, hysteria, and menopausal depression. Yu pattern is classified into six types: "liver qi depression (ganqihuo)", "stagnant qi transforming into fire (qiyuhuahuojie)", "qi stagnation and phlegm depression (qizhitanyu)", "malnutrition of heart and spirit (Xinshenshiyang)", "heart and spleen deficiency (xinpiliangxu)", and "yin deficiency with effulgent fire (yinxuhuowan)". For liver qi depression, LR14, GB34, TE6,

ST36, GB41, and LR3 are used. For stagnant qi transforming into fire, BL18, CV14, ST36, LR14, and LR3 are used. For qi stagnation and phlegm depression, CV22, BL13, CV17, CV13, PC6, ST40, BL18, and LR3 are used. For malnutrition of heart and spirit, HT5, BL15, SP6, PC6, HT7, and ST36 are used. For heart and spleen deficiency, HT7, SP6, ST36, BL20, BL15, LR13, and SP3 are used. For yin deficiency with effulgent fire, SP6, HT7, BL15, BL23, and KI3 are used.

The acupuncture and moxibustion treatment of contemporary mental disorders is presented as follows. Although acupuncture and moxibustion treatment often deals with physical symptoms, it is more likely to include patients with mild depression even if they do not complain of psychiatric symptoms. The patient's complaints should be listened to carefully, and information leading to the patient's family and social environment should be elicited from the examination to determine the suitability of acupuncture and moxibustion treatment. In order to find mental disorders, it is important to establish a good relationship of trust between the acupuncturist and the patient, and the acupuncturist's ability to communicate is necessary [7]. Interviewing skills through non-directive counseling and other methods are also important. Medical interviews centered on listening and empathy, and forming a good relationship can increase the effectiveness of treatment.

In acupuncture and moxibustion treatment, there are no specific acupuncture points for treatment. Acupuncture and moxibustion treatment involves un-

derstanding the patient's condition, building a relationship with the patient, patient education, and treatment together with Western medicine. It is important to incorporate evidence-based medicine (EBM) into treatment. Cognitive-behavioral therapy and appropriate patient education are also important [7]. By determining the appropriateness of acupuncture and moxibustion treatment, and sometimes using acupuncture and moxibustion treatment in conjunction with Western medicine's drug therapy, it is considered that acupuncture and moxibustion treatment will be an effective treatment method for patients with mental disorders.

Examples of reported acupuncture and moxibustion treatments are shown as follows. In animal experiments, the combined use of antidepressants and acupuncture and moxibustion has been shown to be effective [8]. Periodic movement of muscles by electro-acupuncture is expected to increase the secretion of serotonin in the nucleus accumbens [9]. A good relationship between the patient and the health care provider activates the prefrontal cortex.

In a clinical study of acupuncture and moxibustion treatment for depression, electro-acupuncture or electro-acupuncture plus antidepressants significantly improved scores compared with antidepressant treatment alone [10]. A 2013 study confirmed an improvement trend with counseling and acupuncture [11]. SP6, LR3, ST36 and LI4 were frequently used [7]. A 2018 systematic review reported that acupuncture compared to no treatment and acupuncture in combination

with drug therapy compared to drug therapy significantly improved severity [12]. On the other hand, it was concluded that the evidence is insufficient for acupuncture treatment for depression at this time [13]. A meta-analysis compared RCTs of acupuncture versus sham acupuncture, and acupuncture and antidepressants versus antidepressants alone, and found significant reductions in depressive symptoms in both acupuncture groups [14].

Mental disorders, mainly depression, for which acupuncture and moxibustion treatment is indicated, can be treated with acupuncture and moxibustion alone if they do not interfere with daily life because they are mild or moderate in severity. On the other hand, in severe cases that interfere with daily life, acupuncture and moxibustion are used in combination with Western medical treatment. Main acupuncture points treated are GV20, PC6, EX-HN1, EX-HN3, and ST8, followed by HT7 and ST36. Since depression causes physical symptoms, the Gastric and Spleen meridians are also used to improve appetite and other symptoms.

In the pattern identification of oriental medicine, the main focus is on the qi-depression, liver, and heart. In the case of depression, there are both physical and mental complaints, so physical symptoms are also treated. GV20, PC6, HT7, SP6, LR3 or LR2, BL10, GB20, BL15, BL18, BL43 are used [4]. If the effect is insufficient, electro-acupuncture stimulation is added to GV20 and EX-HN3. Frequencies of 2 Hz or 100 Hz are often used.

In discussion, the application of acupuncture and moxibustion treatment to mental disorder will discuss, as follows.

From the viewpoint of social cost, it is important to reduce mental disorders of patients. Although the medical cost of mental disorders is small, the social burden due to indirect burdens such as hiring a substitute for the patient due to the patient's absence from work increases. Therefore, mental disorders are said to have higher social costs than cancer patients, and the government is promoting measures to combat depression in particular [15]. Since the reduction of patients' mental disorders by acupuncture and moxibustion treatment can contribute to the reduction of this social cost, acupuncturists need to actively inform the general public that acupuncture and moxibustion treatment can reduce patients' mental disorders.

From the viewpoint of Oriental medical treatment, depression is considered to be closely related to "diankuang" and "yu" pattern. In diankuang, depression is similar to the depressive state of "dian" pattern, but the "dian" pattern and "kuang" pattern that comprise diankuang cannot be clearly distinguished symptomatically and may appear alternately. Therefore, focusing only on dian pattern may lead to overlooking depressive state caused by bipolar disorder. Depression is similar to the symptoms of "stagnation of phlegm and qi" and "heart and spleen deficiency" in dian pattern. In yu pattern, depression is close to the symptoms of "liver qi depression", "malnutrition of heart and spirit", and "heart and spleen deficiency". Diankuang and yu pattern include not only depression but also schizophrenia, neurosis, bipolar disorder, psychosomatic disorders, menopausal disorders, dementia, etc. It is necessary to accurately clas-

sify the patterns based on the patient's complaints and formulate a prescription.

From the perspective of preventing the onset of depression, it is important to maintain a high level of stress tolerance in patients on a daily basis. Since mental disorder such as depression occur due to the presence of stress, the increase of resilience to bounce back from stress in the absence of illness is important. It is also important to encourage people who are stressed to overcome stress and grow, and also to manage their health in order to prevent illness through acupuncture and moxibustion treatment. For people with mental disorders such as depression, it is important to engage with them through acupuncture and moxibustion treatment to improve their symptoms.

From the viewpoint of alleviating stress that causes mental disorders such as depression, there is a method of applying minor stress on a daily basis. It is said that the increase of adrenaline and noradrenaline by acute minor stress can alleviate major stress. It is considered that electro-acupuncture stimulation can generate acute minor stress stimuli and increase adrenaline and noradrenaline, thereby reducing inflammation in the body and activating the body.

Recent reports are also instructive. In the report comparing the add-on effects of acupuncture in depression and depressive state in bipolar disorder to the standard treatment period in follow-up [16], significant reductions in depression scale and anxiety scale were found. Treatment positions were the 10 acupuncture points of GV20, GB20, BL15, BL18, BL20, PC6, LI4, ST36, SP6, and LR3 as common

acupuncture points for treatment, with additional holes were added according to the physical findings in each case. Although there was no change in the conversion value of the drugs used, the effect of acupuncture was shown to persist for 2 months after the end of acupuncture treatment. Treatment positions were GV20, GB20, BL15, BL18, PC6, SP6, and LR3 as the general treatment sites, and BL20, LI4, and ST36 were added. Although the conventional pattern identification have focused on qi-depression, liver, and heart, the incidence of onset due to abnormalities in the spleen and stomach meridians has been increasing in the clinical treatment. The acupuncture points of ST36 relating to the spleen meridian may represent a recent trend in acupuncture treatment in depressive state. Even in books for the general public, GV20, BL10, GV12, GV4, HT7, PC6, ST36, GB37, and LR3 are also recommended [17]. Electro-acupuncture treatment (1 Hz, 10 min) has been used when the degree of the patient's pathology is intense or when significant musculoskeletal symptom findings are present [16]. To activate the activity of the prefrontal cortex, electro-acupuncture is applied on the head near the frontal lobe at about 100 Hz. In the activation of the prefrontal cortex, not only the acupuncture technique, but also the creation of a good trusting relationship between the patient and the acupuncturist is effective. For patient education, a good trusting relationship can be formed through teaching breathing techniques such as meditation, mindfulness, and abdominal breathing. Acupuncturists need to hone their interviewing skills, improve not only patients' physical symptoms but also their mental symptoms, re-

move physical illness and anxiety, and alleviate stress. As a result, how patients perceive stress, perception of stress, and stress coping behavior can be improved.

In terms of the intensity of acupuncture and moxibustion treatment, slight stimulation is often desired in the treatment of mental disorders such as depression. Patients with depression often do not prefer strong stimulation with acupuncture needles, and stroking or rubbing treatment is often preferred, and the use of spoon needle may increase the effectiveness of treatment. In stroking treatment, positive effect on mother-to-child emotional and mental health in baby massage with stroking mainly has been reported [18]. Stroking treatment could also be incorporated into the treatment of depressed patients. In rubbing treatment, a report has been made regarding the clinical significance of the care of elderly patients with dementia using rubbing needle by acupuncturists [19]. It has been shown that care for the elderly with dementia using rubbing needle has a complementary role to routine and standard care. Contact acupuncture, which is less irritating, has also been reported in many cases of mental illness. Although most patients have a sinking pulse with lung deficiency pattern, there are also cases of liver deficiency pattern and spleen deficiency pattern. LU9, SP3, ST36, LI11, CV12, CV6, BL2, GB20, GB21, BL13, BL20, BL52, GV10, and SP6 are used [20]. In application examples of Sawada style, acupuncture points with tender and deficient are selected in CV12, left TE4, CV6, LI11, ST36, KI6, GV12, TE15, BL17, BL20, BL23, BL32, GV20, GV11 [20]. In some cases, it will be effective to use spoon

needle or shear needle, which is less stimulating than contact acupuncture [21].

Remained issue for the future is the fact that standard acupuncture and moxibustion treatment methods for mental disorders have not been established. In a report on acupuncture and moxibustion treatment for mental complaints at multi private clinics, scores on the PHQ-9 (Patient Health Questionnaire-9) and PHQ-15 were improved [22]. In some cases, the symptoms remained after treatment, but cases in which patients stopped taking their medications were also described. The use of a common evaluation scale and reporting criteria for interventions allows the accumulation of cases from many clinics, and it is considered that the classification of acupuncture and moxibustion treatment forms and the accumulation of similar treatment type will facilitate the construction of a standard acupuncture and moxibustion treatment for mental disorders.

In summary, the total number of patients with mental disorders is increasing and is considered one of the five major diseases. Since depression is one of the most common among the working-age population among mental disorders, the status of acupuncture and moxibustion treatment with a focus on depression was explained. The Western medical treatment for mental disorders, such as schizophrenia, neurosis, and depression, was explained, and the Oriental medical treatment for mental disorders, such as "diankuang" and "yu" pattern, was explained. In acupuncture and moxibustion treatment, it is important to combine with Western medical treatment when

there are obstacles in daily life. Although the quality of evidence for the effectiveness of acupuncture for depression is still low, it has been reported that acupuncture compared to no treatment and acupuncture combined with drug therapy compared to drug therapy significantly improves the severity of the disease. By listening carefully to the patient's complaints, judging the suitability of acupuncture and moxibustion treatment, and treating the patient in combination with Western medicine's drug therapy, it is considered that acupuncture and moxibustion treatment will be an effective treatment for mental disorders. The treatment of mental disorders such as depression is based on the qi-depression, liver, and heart, with acupuncture points on the head and the liver and heart meridians being the main acupuncture points for treatment. The spleen and stomach meridians are also treated. Electroacupuncture is also used, but in the treatment of mental disorders, slight stimulation is often preferred, and contact acupuncture, spoon needle, shear needle, stroking, and rubbing are also used. Since the remained issue in acupuncture and moxibustion treatment for mental disorders is that standard treatment methods have not yet been established, it is considered that the accumulation of cases will make it easier to construct standard acupuncture and moxibustion treatments for mental disorders.

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