

# The Study of Art Therapy using Mandala for Chronic Pain of Endometriosis

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## Abstract

The endometriosis is the extra-uterine existence of endometrial tissue. Usually it is in peritoneal cavity, so it bleeds in peritoneal cavity and adhered with adjacent organs. Therefore, it produces the pelvic pain and it need the medical or surgical treatment. However, the pain is not controlled completely after these treatments. Therefore, other supportive treatment is needed. Art therapy can be used for this purpose, because recently many studies were reported that the pain of endometriosis is related to stress or psychological problem. In the eleven patients who have remained pain after medical or surgical treatment for endometriosis, they were treated by art therapy as mandala therapy. After this therapy, more than 2 VAS (Visual Analog Scale) is significantly decreased in 7 of 11 patients (P<0.05) although VAS is not decreased in 4 of 11 patients. Therefore, I concluded mandala art therapy is helpful for the remained pain after medical or surgical treatment for estudy is needed by the study of more big sample and long duration.

Keywords: Endometriosis; Pelvic Pain; Art Therapy; Mandala

#### Introduction

Endometriosis refers to the endometrium that should be in the uterus, not in the womb, but in the abdominal cavity or in other. The endometrium is a chronic gynecological disease that causes infertility, pelvic pain and natural miscarriage, because it is responsible for creating physiological blood in the abdominal cavity when this endometrium is present in the abdominal cavity every month, thereby activating inflammatory changes in the abdominal cavity and causing various pathological changes in women, mainly causing adhesions to surrounding tissue, pelvic pain and natural miscarriage.

In particular, the pain of endometriosis appears in the form of severe menstrual cramps and chronic pelvic pain that is sore even when not menstruating. Although several medications or surgical treatments are carried out for the treatments of these, in many cases the pain continues after these treatments or does not completely disappear. Therefore, in addition to these treatments, several adjuvant treatments have been studied. Recently, as the link between pain and progression and stress of endometriosis has emerged, various studies have been conducted. The author began this study by promoting psychological stability through art, weakening the intensity of pain, and also inhibiting the progression of endometriosis.

# **Materials and Methods**

#### Subject to Study

To treat the pain that remains after surgery or medication with endometriosis, the art therapy using Mandala was performed on 11patients who agreed. The comparing the degree of pain was performed before and after mandala art therapy. Women who participated in the study were  $34 \pm 5$ years old.

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#### How to Treat art Therapy Using Mandala

The art therapy using mandalas was performed once a week for a total of 8 weeks, and the degree of menstrual cramps before and after art therapy was compared to each. The mandala shape used for each episode of the treatment is (Table 1).





Table 1: Mandala shapes used for each episode of the treatment.

#### **Measure of Pain Level**

VAS (Visual analog Scale), the world's most widely used measure of pain, was used to record scores before and after art therapy out of a total of 10 points, and compared the differences in scores. The scale is created from pain-free with zero points to unbearable pain with 10 points, and a patient records the degree of pain by dividing the steps into 10. It is usually a method of giving zero points without pain at, 2 points of slight, 4 points of considerable, 6 points of significant pain, 8 points of very severe pain, and 10 points of unbearable ignorance soreness. The 1, 3, 5, 7, 9 points are pain between adjacent pain-points.

#### **Statistical Analysis**

Statistical analysis was analysed using a 2x2 table of  $\chi$ -square with Fisher's exact test.

# **Results**

Four of the 11 patients in the study were unable to observe changes in VAS after Mandala art therapy, while seven of the 11 patients showed a reduction in pain of 2 or more by measure of VAS (p < 0.05). In other words, Mandala art therapy was able to observe statistically significant therapeutic effects on pain that remains after menstrual or chronic pelvic pain due to endometriosis, even after conventional medication or surgical treatment.

# Conclusion

Art therapy using Mandala was performed on 11patients who agreed to this study to treat pain that remains after

surgery or medication with endometriosis, and a comparative analysis of the degree of pain before and after the Mandala art therapy. The mandala art therapy was able to observe statistically significant therapeutic on pain that remains even after conventional medication or surgery for menstrual pain or chronic pelvic pain caused by endometriosis.

However, fewer experimental groups participated and a shorter duration would require more experimental groups to perform mandala art therapy for a longer period of time to make accurate conclusions. In some studies, the reduction of stress can reduce the progression of endometriosis. Therefore, the future study is necessary to observe the usefulness of conventional treatments rather than adjuvant treatments as a parallel treatment.

#### Discussion

Endometriosis refers to the endometrium that is not in the womb, but in the abdominal cavity or in other places such as the nasal cavity and intestine. If the endometrium is present in the abdominal cavity during menstruation, menstrual blood is created in the abdominal cavity and this blood causes adhesion of various organs such as gynecologic organs and intestine in the abdominal cavity. Therefore, it leads to menstrual cramps, chronic pelvic pain and poor pregnancy. Endometriosis also causes a number of pathophysiological changes in the woman's body by causing inflammatory changes in the abdominal cavity as well as these adhesions activating the activity of inflammatory cells. In addition, sometimes it forms tumours in the ovaries, which can become malignant. Endometriosis causes mental distress caused by pain, decreases pregnancy ability, and causes problems in sex life caused by chronic pelvic pain.

It's important to discover it quickly and start treatment in endometriosis. Recently, the occurrence of patients with endometriosis has gradually increased, and is found in 40-50% of women population. In particular, pain caused by endometriosis appears mainly in the form of severe menstrual and pelvic pain, and not only does the symptoms gradually worsen with the progress of the disease, but surgery is difficult due to adhesions. Even if medication is taken, it is often difficult to heal complete pain, and it is difficult to treat because of the recurrence.

The ethology of endometriosis is not completely clear yet, but there are some theories. The first is the theory that the menstrual blood and parts of the endometrium are regurgitated into the abdominal cavity. Those, who are originally regurgitated should be cleaned by immune cells, are surviving in the abdominal cavity without being cleaned. The other theory is that part of the normal peritoneum changes into endometrial tissue. The rest of the theory is that there are other stimuli that cause them to occur, and that they spread through the lymph nodes or blood to the lungs or other organs.

A typical treatment for endometriosis is divided into medication and surgical treatment, where cysts form in the ovaries should be surgically removed and surrounding adhesions removed. However, despite these treatments, the pain of endometriosis is often not completely lost, and endometriosis is a very difficult disease that requires a number of assistive treatments due to high recurrence and requires regular consultation until menopause.

Symptoms of endometriosis are mainly in the form of menstrual and chronic pelvic pain during sexual intercourse and urination. In most patients, the intensity of this pain is not proportional to the degree of disease severity. In some studies, invasive depth of endometriosis lesions is related to the degree of pain. It is not yet clear that endometriosis causes pain, but prostaglandin is known to be more likely to increase than normal, and the mostly lesions of young women cause menstrual cramps. The black fibrous lesions in older women are known to cause pelvic pain or sexual intercourse the Fourth Edition of Gynecology 2007 [1-3].

Pain caused by endometriosis can be caused by some. The first is pain caused by endometriosis lesions themselves damage to nerve and nerve activation chronic pain caused by small rupture of ovarian endometrial cyst Pain due to pelvic scar, atrophy and fibrosis Pain caused by adhesion Pain caused by traction of the nodules of endometriosis or contact pain of endometriosis lesions Pain caused by inflammatory changes around the lesions as the secondary effect of endometriosis [4,5]. The pain in endometriosis is very difficult to treat, so it should be treated by several steps. The first step of pain treatment is medication or surgical treatment for endometriosis. Drugs used in the treatment of endometriosis lesions are danazol, gonadotropin releasing hormone agonist (GnRHa), gestrinone and high-dose progesterone therapy (MPA). Surgical treatment for endometriosis can be performed by laparoscopic surgery. Laparoscopic surgery has the advantage of faster recovery than open surgery, less postoperative pain, less adhesion after surgery and less pain after surgery. Therefore, laparoscopic surgery is currently performed as a principled operation of endometriosis [4,6-8].

The treatment of the remaining pain after medication or surgical treatment is the next step for pain treatment for endometriosis, and it is a long-term treatment of nonsteroidal anti-inflammatory drugs. The cause of pain in endometriosis is still unclear, but it can be caused by inflammatory changes that accompany the surrounding tissues of endometriosis lesion and the pain caused by adhesion. Therefore, the treatment for endometriosis lesions is treated, and then pain that is not controlled by this endometriosis treatment is treated with inflammation pain using nonsteroidal antiinflammatory drugs.

The next step of treatment for pain that persists after this treatment of nonsteroidal anti-inflammatory agents is to be assisted by immune treatment therapy. Currently, mistletoe is known as the drug for the immune treatment of endometriosis. In recent years, it is known that the immunological aspects of endometriosis, so since immunological changes are deeply related to endometriosis, they may contribute to the treatment by giving immunological changes [9].

With these immunotherapy procedures and several adjuvant treatments have been studied for residual pain, a lot of research has recently been conducted on the relationship between endometriosis and psychological stress. Recently some studies have reported the possibility of psychotherapy beyond the treatment stage of pain to the treatment of endometriosis.

Coxon, et al. [10] reports that the central nervous system is involved in the pain of endometriosis. In other words, stress and psychological abnormalities control the degree of pain. Evans, et al. [11] has no definitive conclusion yet on the treatment of endometriosis, but it is that psychological approaches such as psychotherapy is necessary as treatment. Brasil, et al. [12] are also reporting that mental stress is associated with pain in endometriosis, and psychotherapy must be combined with pain treatment in patients with endometriosis. Morotti M, et al. [3] report that pain in endometriosis has a mild relationship with psychological stress or fatigue. Donatti L, et al. [13] also report that the treatment of pain in endometriosis must be planned by psychotherapy, and stress level and pain of endometriosis are deeply related. In addition, several studies were reported as the link between stress and pain in endometriosis [14-16]. In some studies, the psychotherapy should be performed in the treatment of endometriosis, because psychological problem is always accompanied in endometriosis by continuous recurrence until menopause and by stress form chronic pain [17,18]. Cuevas, et al. [19,20] reported psychological relationship of endometriosis in animal experiments of stressed animals caused endometriosis by stress. Guo SW, et al. [21] also reports that animal trials after chronic stress promote the growth of endometriosis lesions and that the development of new blood vessels is observed and chronic stress promotes the development of endometriosis. In addition, several studies were reported that stress promotes the onset and recurrence of endometriosis [22-26]. Therefore, psychological therapy in the treatment of endometriosis has been highlighted as a necessary treatment for reducing recurrence of endometriosis.

In the 20th century, psychoanalysis began to attract attention that art therapy could be used for diagnosis and treatment by expressing the symbolic content of unconscious. Art therapy was first introduced by Naumburg in the 1940s, and art therapy is used through art activities to observe symbolic images of free association and unconsciousness and to purify internal consciousness by purifying it [27]. Art often expresses thoughts and emotions that cannot be expressed in language, so it can be used [28,29]. Camic, et al. [30,31] reported that art therapy is a treatment tool that can be performed in addition to medical therapy. Recently many studies have been published that show that art therapy improves the quality of life for patients suffering from physical. The pain of the disease affects the patient's daily life, can be stressed in unfamiliar environments and interpersonal relationships, and causes confusion with fear about the prognosis or future of the disease and lose control of own body. In recent years, it has been reported that various studies can improve physical health by allowing patients to express themselves through medical art therapy, opening their inner minds through art and expressing them through art activities from anxiety and pain that are difficult to express in language [32-35].

One of these art psychologic treatments, Mandala Art Therapy, is a treatment that induces psychological stability by using mandala. Mandala means circle, to comfortably draw and colour various forms of patterns. It is reported that mandala psychotherapy can be effective by promoting the patient's self-esteem and identifying the psychological state and planning the treatment by observing what colours and tools the patient uses in the circle and where they fill.

Mandala treatment is said to have originated from Navajo Indians for healing wounds and illnesses through sand. They are said to have used coloured sand to draw mandalas on the patient's body. Mandala has been used, in many parts of the world for purposes such as religious. In Buddhism and Hinduism, as a religious liturgical event, mandalas were used to improve the human mental.

The German Jung, who first mentioned Mandala in psychology, sought to heal the confusion caused by humans in the process of achieving self-realization using Mandala psychologically [36]. According to Jung, the form of circularity in humans is thought of as a symbol of the unifier, unconsciously in the form of dreams and pictures in mental. By painting Mandala, they raise the unconscious content to consciousness and free him from confusion, allowing him to heal. Circles in art therapy are very easy to work, making them easy to use. By focusing on the circle drawing of the mandala, the patient has the opportunity to relieve. Because they have a strong concentration while drawing mandalas, the body reports that they leave the psychological enemy and is physiologically stable. Mandala helps to find stability and balance of psychology, so there are reports of the use of mandala for art therapy [37-42].

The effect of drawing mandalas began with the aim of reducing psychological residual pain that has not been healed by drugs through mental concentration and psychological relaxation.

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