



# The Feasibility of Using Acupuncture to Treat Endometriosis



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## Abstract

**Introduction:** The knowledge of acupuncture had been isolated from the Western world for around 5000 years, distanced by its language and form of reasoning. In addition to the semantic setback, the practice of this technique is now faced with shortcomings in its educational and scientific dissemination. Objective: to analyze the feasibility of acupuncture treatment for endometriosis.

**Method:** There were 5 sessions, at each acupuncture session, the presence or absence of each participant was recorded, as well as the reason for their absence and the safety was assessed based on the occurrence of adverse events, pain during or immediately after the session, general malaise, nausea, motion sickness and dizziness.

**Results:** 89% of women adhered to all sessions and only two of them had possible side effects.

**Conclusion:** This study concludes that acupuncture is a safe and widely adherent treatment.

**Keywords:** Feasibility; Endometriosis; Acupuncture

## Introduction

The knowledge of acupuncture had been isolated from the Western world for around 5000 years, distanced by its language and form of reasoning. In addition to the semantic setback, the practice of this technique is now faced with shortcomings in its educational and scientific dissemination. Science rejects the principle of energy, metaphysical language and the apparently primitive system of TCM, thus hindering the engagement of scientists in the research and development of acupuncture [1,2]. Many scholars believe that Chinese acupuncture is, at the same time, a study of pathological disorders and a therapeutic method capable of correcting and combating them [3].

The effectiveness of acupuncture and other techniques of TCM have been proven by studies conducted worldwide [4,5]. According to data from the World Health Organization (WHO), the greater majority of people in rich countries seek treatment by way of natural health products, as they consider them to be safer. While in developing countries, 80% of the population uses traditional medicine for primary health care, due to cultural tradition or lack of alternatives [6]. Congruently, authors point to

the consensus that the cost of treatment by acupuncture is very low, especially when compared to that of allopathic medicine, which involves the participation of several specialists in a single-patient approach and the repetition of routine and controlled tests [7].

With regard to endometriosis, the main focus of drug treatment is hormonal manipulation with the intention of producing a pseudo-pregnancy, pseudo-menopause or chronic an ovulation, thus creating an environment unsuitable for the growth and maintenance of endometriosis implants [8]. The choice of treatment depends on the severity of the symptoms, the extent and location of the disease, the desire for pregnancy and the age of the patient. It can be surgical, by means of medication, or a combination of both. [9] The effectiveness of treatments has been measured by evaluations of pain relief and fertility rates. However, traditionally used therapies present high socio-economic impact and the data related to the effectiveness of such therapeutic approaches are quite conflicting [9]. This study aims to analyze the feasibility of acupuncture treatment for endometriosis.

## Method

### Assessment of recruitment

Recruitment was carried out in the Outpatient Facility for Pelvic Pain of the Hospital Ernani Polidoro de São Thigo (HU-UFSC). This medical clinic is a center of reference in Santa Catarina State for its research and the assistance it provides to individuals with endometriosis. The patients of this ambulatory clinic are referred by the national unified health system (SUS). Recruitment for participation in the study was conducted by physiotherapists who assessed the eligibility criteria and was solicited while the individuals were on the waiting list for a laparoscopy. Data was recorded on the number of people screened for eligibility as well as the reasons why the individuals were deemed ineligible for inclusion. Similarly, logs were made as to the reason why patients considered eligible refused to participate in the study.

### Assessment of presence and adherence

Information regarding the presence and adherence to training protocol was collected by the physiotherapist in charge during the intervention period. At each acupuncture session, the presence or absence of each participant was recorded, as well as the reason for their absence.

Adherence to treatment was determined by the number of sessions that the participants underwent. Determining the cause of absence was made on the same day by phone.

### Assessment of safety

The safety of acupuncture was assessed based on the occurrence of adverse events, pain during or immediately after the session, general malaise, nausea, motion sickness and dizziness.

Adverse events were monitored and recorded in each session. At the beginning, during and end of each session, the physical therapist in charge asked each participant if they experienced any discomfort or pain related to the acupuncture. When the existence of pain was determined, the visual analog scale was used. The risk of acupuncture therapy was determined by the ratio of the number of individuals with complaints of adverse effects against the total number of participants.

### Statistical analysis

Descriptive statistics for the average (standard deviation) and percentile was implemented for the variables.

## Results

A total of 19 women with endometriosis, with an average age of  $28.2 \pm 9.3$  years old (18-42), participated in the acupuncture sessions. Table 1 shows the socio-economic and cultural profile of the participants. Most women were married, living with relatives and had an income of less than 2.5 minimum wages. All the participants customarily used medication based on oral contraceptives without any delay period. The most frequent

health condition was depression, as reported in five participants (27%), followed by migraines in four of them (21%) and hypertension in three (16%).

**Table 1:** Socioeconomic and cultural characterization of participants (n = 19).

Variables	(%)
<b>Marital status</b>	
Married	11 (57%)
Single, widows and divorcees	8 (43%)
Cohabitation	
Family members (Spouse, children and others)	15 (79%)
Alone	4 (21%)
<b>Education</b>	
Completed Elementary School	3 (17%)
High school Graduates	11 (57%)
College graduates	5 (26%)
<b>Home income</b>	
1 to 3 minimum wages	14 (73%)
4 to 6 minimum wages	5 (27%)
<b>Occupation</b>	
...Working jobs	16 (83%)
Homemakers	3 (17%)

### Recruitment

**Table 2:** Number (%) of women with endometriosis excluded after recruitment (n = 19).

Reasons For Exclusion	Excluded (%)
Use of analgesic and/or anti-inflammatory medication	8 (42%)
Pregnancy	5 (26%)
Not using contraceptives	3 (16%)
Women taking physical therapy	3 (16%)

**Table 3:** Women (n/ %) with endometriosis who refused to participate (n = 22).

Reasons	(%)
Residence in another municipality	11 (50%)
Fear of needles	6 (27%)
Lack of interest (motivation)	3 (13%)
Lack of financial resources for transportation	2 (9%)

A total of sixty-two women with endometriosis were screened for eligibility in the period from January to October 2015. Of which, 19 (31%) were excluded because they did not meet the inclusion criteria (Table 2). The main reasons for their being excluded were: the use of analgesic and anti-inflammatory medication, pregnancy and not using contraceptives. Of the forty-three eligible individuals, twenty-two (54%) refused to participate in the study. The reasons for their refusal are shown in Table 3. The main reason was due to the lack of financial resources for transportation and access to the location of

treatment. In summary, twenty-one (32%) women were eligible and consented to participate in the study. Of these, two had to discontinue treatment in the third, fifth and sixth weeks of the protocol with attendance rate above 89% prior to the date of desistance. The reasons for their leaving were due to personal problems, such as family members that suffered accidents and the need to take care of their children.

### Attendance

The attendance rate was  $88 \pm 7.3\%$ , i.e., of the ninety-five available sessions, eighty-four were undergone by the participants of the study. The main reasons for absence were due to health problems such as indisposition and influenza (35%); difficulty with the public transportation system (overcrowding, shortage and poor condition of vehicles) (32%); family issues (28%) and travel for religious purposes (5%). Eight participants (61%) attended 89% or more of the available sessions.

### Adhesion

Of the eighty-four sessions attended by participants, all were carried out in full.

### Safety

No adverse events occurred during the acupuncture sessions. Two participants (3%) reported a floating sensation while they were with the needles, not requiring exclusion from the program.

The risk of acupuncture causing adverse effects was null, considering the total absence of adverse events. Although depression was the most common health condition, no emotional problems were reported during the intervention period.

### Discussion

Since 1970, numerous scientific studies have set out to prove the effectiveness of acupuncture. In 1979, the World Health Organization (who) published a list of forty-one diseases that displayed excellent results with acupuncture treatment. After twenty-five years of research in renowned institutions around the world, WHO published the document *Acupuncture: Review - an analysis of reports on controlled clinical trials*, in which the results of those studies were divulged [6].

However, the present study, to the knowledge of the authors, is the first to investigate the feasibility and safety of acupuncture treatment for women affected by endometriosis. Data relating to the recruitment rates, attendance, and safety of the participants are discussed below.

### Recruitment

It has been pointed out that the main obstacle for conducting clinical trials in endometriosis is patient recruitment [10]. The present study showed a low recruitment rate of 11% during the period of ten months. Considering the characteristics of the location of recruitment and the direct access of researchers to individuals with endometriosis, greater success was expected. Difficulties such as these were also present in the study by Wayne

et al., where they were able to obtain only eighteen patients during a period of two years [11].

When patients with endometriosis were approached and offered multidisciplinary care, desistance particularly occurred allegedly due to work and/or study reasons, difficulties related to commuting and transportation, and also due to the lack of understanding of their situation of pain. Corroborating with the findings of the present study, the main reasons for refusal was lack of financial resources for transportation and access to the location of treatment [12].

### Attendance

Of the ninety-five sessions made available, eighty-four were successfully carried out, while the main reasons for absence was either illness or problems with transportation. In patients with endometriosis treated with acupuncture, desistance of the therapy was due to personal reasons and displacement, which corresponds to approximately 22.3% of the individuals who agreed to participate.

Many women reported abandoning the treatment before its completion due to discredit in the positive effects that were made apparent, a fact that seems to place acupuncture in an advantage, considering that 83% of the women under study reported having experienced relief in their symptoms since the first treatment session, an incidence which did not occur with traditional hormonal medication.

### Adhesion

In this study, a total of 100% adhesion to treatment sessions by the patients was recorded, in contrast to another intervention study from 2007 which held the objective of establishing the effectiveness of acupuncture in the treatment of drug-dependent patients, where the 65% desistance of patients, and one of the main reasons reported, was the complaint of not feeling any benefits from the weekly applications and experiencing additional pain from the application of needles [13].

There are several factors that interfere with adherence to treatment, including sex, advanced age, attendance at sessions, the results that the intervention brings the person, among others [14]. It should be taken into pertinent consideration the individuals' willingness to collaborate and participate in the treatment program, as well as the behavior, feelings, psychological effects and attitudes regarding the ailing process and living with the disease [15].

### Safety

No adverse effects occurred during this study and, as shown in this article, acupuncture is a less invasive and more natural method as it is less susceptible to adverse effects than other forms of treatment when practiced by the hands of competent professionals. However, when acupuncture points are handled inappropriately, undesirable effects may occur such as pain, malaise, nausea, motion sickness, dizziness, among others [16-18].

In a systematic review from 2001 in which nine articles were analyzed with the goal of addressing the adverse effects of acupuncture, bleeding was reported in 38% of all patients, 28% reported some adverse effects of a milder degree, and 45% reported worsening pain. Pneumothorax occurred in only two cases. Infections were not found in any of the studies [19], suggesting that serious adverse effects of acupuncture are unusual during clinical practice, as verified in this study.

### Conclusion

This study concludes that acupuncture is a treatment with rare side effects, being quite safe for those who perform it. Such a reason probably helps to maintain adherence to the proposed treatment, however we suggest more studies with a larger sample number to achieve the results found here.

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