Endometriosis and Reflexology

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Although there has been no previous study published involving the effects of reflexology on endometriosis, documented research does exist involving the effects of reflexology on other gynecological disorders, including PMS, amenorrhea, dysmenorrhea, hypermenorrhea, polycystic ovary syndrome and infertility. All of these studies have shown that reflexology has a significant effect on decreasing symptoms, though most of them are case studies, with two exceptions: Oleson and Flocco (1993) conducted a randomized, controlled, single-blind study of the effects of foot, hand and ear reflexology on women with PMS and found a significantly greater decrease in symptoms in the treatment group than in the placebo group. A few years later, Kim and Cho (2002) conducted a controlled study with female college students with PMS and dysmenorrhea and found that foot reflexology was shown to be effective in reducing symptoms in this population.

The success of these studies concerning reflexology and women's reproductive health suggests that reflexology might also be effective for women suffering from endometriosis, a chronic, progressive and often painful condition in which endometrial cells grow outside of the uterus. This case study involves the use of foot reflexology with a 22-year-old female who has suffered with endometriosis for nearly nine years. She entered the study complaining of severe pain and discomfort before and during her menses, and less intense pain during the rest of her cycle. She has undergone hormone therapy and laparoscopic surgery with some success, though her symptoms ultimately recurred with increased severity after both. She has since managed her condition with pain medication and bed rest, and sought reflexology with the goal of having less painful periods. Prior to this study, she had had no previous experiences with reflexology.

This report is presented from the perspective of both the therapist, in terms of the objective findings during treatment, and of the subject, in terms of her personal experience with endometriosis, her response to treatment and her own record of symptoms.

History of the Subject's Illness

The subject participated in a pre-treatment interview prior to her first reflexology session in order for the therapist to gather information about her relevant medical history, symptoms and general experience with endometriosis. The

subject stated that complications and pain relating to her menstrual cycle began about six months after the onset of her first period at age 13, and said it was common for her to spend time in the hospital every month around her period, through the time she was diagnosed with endometriosis at age 14. She said that since then, her symptoms have largely been consistent with what she was reporting at the time of entering this study: She reported experiencing several symptoms throughout her cycle, including "stabbing, intense" pelvic/abdominal pain ("especially at my left ovary"), cramping, pain with intercourse ("It always hurts, just sometimes it's worse than others,") and headaches, all of which she said are typically moderate but become severe about one week before her period starts and during the first three to four days of her period. She said that once her period begins, she also experiences moderate to severe nausea, diarrhea and pain with bowel movements. She claimed that her menstrual flow is always extremely heavy for the first few days of her cycle, and that she is often "in so much pain [she] can't move." She said the length of her menstrual cycles varies greatly between being abnormally short (around three weeks) or unusually long (up to three months). The subject denied other current symptoms that often occur with endometriosis, including pain with urination, irregular bleeding, depression and anxiety.

Regarding the subject's history of treatment for endometriosis, she recalled early attempts at being treated with oral contraceptives, but stated "birth control [pills] and I don't get along—they just make me feel worse." She reported that at age 15 she had laparoscopic surgery to remove endometrial tissue from the top of her bladder and around her ovaries, and that after recovering from the surgery she was relatively symptom-free for three to four years. She said her symptoms returned suddenly and severely at age 19, causing her to initially spend three weeks in the hospital for "unbearable pain," at which time she was prescribed Lupron (a synthetic hormone used to manage endometriosis), which she recalled taking for six months. She stated that she was symptom-free for those six months and for the two months following the course of injections, but claimed she gained significant weight (over 50 lbs) as a side effect.

The subject reported that since that time, she has "just dealt with" her symptoms, which she said have gotten worse over the past nine months. She described using a heating pad to ease pelvic pain and cramping when it is severe and lying down to rest or sleep until the pain starts to subside. She stated that she currently takes the pain medication Lortab (10 mg, 4x/day, regardless of her symptoms), and said that although it doesn't prevent the pain from getting unbearable, she worries how much worse it would be if she weren't taking the drug. She also revealed during treatment that she smokes cigarettes and marijuana daily. When asked if she feels this is part of her coping strategy for her pain, she replied, "I guess so," but said that these habits have "just been part of [her] life" from when she was young and expressed no intention or desire to give

them up. She noted that her use is consistent and does not vary with her levels of pain. In regards to other medication, the subject stated that she was recently prescribed Provera but hadn't filled the prescription because she was worried about the side effects of taking more hormones. She expressed a desire to get another laparoscopy but said she cannot afford it because she did not currently have health insurance. She claimed she would consider having a hysterectomy but said she has been denied that as a treatment option because of her young age, despite the fact that she has been told by doctors that she has "less than a 1% chance of being able to have children," and that she "will have endometriosis for the rest of [her] life." The subject further stated that she has never been pregnant.

The subject said she has adopted an attitude of relative acceptance about her condition and its resulting limitations, and detailed how a few years ago she essentially made a conscious decision to "not let it get [her] down," and to simply move forward with her life in as normal a manner as possible. "Yeah, what I have [endometriosis] is horrible, but life is too short for me to sit around and feel sorry for myself," she said, and claimed she feels a lot better if she just tries "to live [her] life like anyone else." She admitted frustration at recently losing her job as an office manager due to absence from work as a result of her pain, but said she is actively looking for new work. She also expressed disappointment at the prospect of never being able to have children of her own but claimed she is planning to adopt at some point in the future. The subject stated that she is currently in a fulfilling romantic relationship and is able to enjoy time with her partner and friends.

Treatment Plan and Implementation

The subject received a total of eight one-hour foot reflexology sessions in the morning once a week for eight consecutive weeks. Weekly treatment was the most frequent schedule of regular treatment that could be agreed upon considering the schedule constraints of the therapist and the transportation constraints of the subject. The duration of treatment was intended to be of sufficient length to carry the subject through at least one full menstrual cycle in order to see the effect of the treatment on her symptoms throughout. Foot reflexology was chosen instead of hand reflexology in an attempt to adhere to the design of the vast majority of other published studies on reflexology. No adjunctive therapies were used, and no scripted or spontaneous communication occurred as to affect the subject's response to treatment. All reflexology was administered using manual techniques, without the use of any tools. The same soft, instrumental music, selected by the therapist, was played during each session, and care was taken to try to ensure that other environmental factors remained the same (lighting, room temperature, ambient noise, etc.).

The first 30 minutes of each session was spent on the left foot, and the second 30 minutes of each session was spent on the right foot. In the treatment of each foot, all surfaces were first worked with general finger- or thumb-walking techniques in order to help the body relax into a parasympathetic state, and then specific reflexes were focused on, based on the following rationale:
1. reflexes for the reproductive system (ovaries, uterus and fallopian tubes) because these are the organs most directly involved in the subject's condition;
2. reflexes for the endocrine system (pineal gland, pituitary gland, thyroid/parathyroid, thymus, adrenals and pancreas) because of the system's integral role in a woman's reproductive health and progression of her cycle;
3. reflexes for the central nervous system (brain and hypothalamus) in order to address the severe pain of the subject's condition; and
4. reflexes for the lymphatic nodes and vessels of the groin and abdomen, in consideration of Halban's theory of lymphatic/vascular dissemination, which holds that endometriosis is caused by endometrial cells entering the local lymphatic channels and travelling to sites outside the uterus.
Techniques used to focus on reflexes included static pressure, alternating pressure and cross-fiber friction.

Treatment began partway through the subject's current menstrual cycle (first cycle, two sessions total, began on day 15*), lasted through an entire subsequent cycle (second cycle, four sessions total), and completed partway through her following cycle (third cycle, two sessions total, last session was on day 12). The subject charted her symptoms in a daily log throughout treatment, and continued charting after treatment ended, through day seven (last day of her menses) of her next cycle (fourth cycle, no sessions), for a total of 82 days. Symptoms charted were chosen after first considering the most common symptoms diagnosed with endometriosis and then conducting a pre-treatment interview (detailed above) to determine what symptoms were most relevant to the subject's personal experience of the disease. The daily log was designed by the therapist and agreed upon by the subject before treatment began. Cramping, pelvic/abdominal pain, nausea, diarrhea, pain with bowel movements, pain with intercourse and headaches were charted as present or not, and if present as mild, moderate or severe. Bleeding was also recorded as present or not, and if present as spotting (light bleeding around times other than menses), light, moderate, heavy or extremely heavy. Although headaches are not a symptom that is necessarily indicative of endometriosis, the subject and therapist felt it important to include, considering the persistent and intense headaches that the subject reported historically accompanying her menses.

**Day 1 of a menstrual cycle is the first day of menstruation.*

Results

Both the therapist and the subject observed some noticeably positive effects as a result of reflexology treatment. The subject reported that she started to slowly feel and see a noticeable difference in her symptoms "within the first few weeks." By the fourth session, she admitted, "I didn't think this was going to work—but it's really doing something!" She also noted that throughout treatment she found herself having many days that were completely symptom-free, which she said she had not experienced on a regular basis in a very long time. A detailed discussion of results follows, presented in terms of clinical observations by the therapist, frequency and severity of symptoms as reported in the subject's daily logs, and anecdotal information that the subject shared with the therapist throughout the study.

Observations by Therapist During Reflexology Sessions

Pain and sensitivity: During the subject's first reflexology session, she tolerated moderate pressure well on most areas of the foot, with some noticeable exceptions. She reported intense, sharp pain at the bilateral reflexes for the ovary and uterus, where she could only tolerate extremely light pressure. At the bilateral reflexes for the groin lymph nodes and fallopian tubes, the bilateral plantar surface of the distal phalanx of the hallux (includes reflexes for the brain, pituitary, hypothalamus and pineal gland) and the bilateral, plantar surface of the distal end of the first metatarsal (includes the reflex for the adrenals), she reported a deep aching and tenderness but could tolerate light pressure. By the third session, she was tolerating moderate pressure in all areas and only reporting mild tenderness on the left foot at the reflexes for the ovary and uterus, and on the right foot near the reflex for the adrenal gland. In the remaining five sessions, the subject tolerated moderate pressure on all reflexes while reporting no pain, aching or tenderness in any areas.

Metabolic waste deposits: During the first session, the therapist noted metabolic waste deposits (MWDs) in the bilateral foot reflexes for the ovaries, uterus, fallopian tubes and groin lymph nodes, as well as the bilateral, plantar surface of the distal phalanx of the hallux, especially at the pituitary reflex. These MWDs on the hallux gradually decreased over the first four to five sessions, at which point they remained minimal or absent in the remainder of the sessions. Changes in the MWDs at the reflexes for the ovaries and uterus were variable, starting to decrease during the fourth and fifth sessions (a more noticeable decrease was noted on the right foot reflexes when compared with the left) and then seeming to increase to earlier concentrations at sessions six and seven, which occurred during the subject's premenstrual and menstrual phases,

respectively. MWDs at the reflexes for both the fallopian tubes and groin lymph nodes did not appear to change throughout the course of treatment.
Changes in symptoms during sessions: On all but one of the days that the subject presented with symptoms immediately prior to treatment (nausea, cramping, pelvic pain and headache), the subject reported those symptoms either being absent or reduced to mild immediately after receiving reflexology. Also worth noting is a comparison between the third and the seventh sessions, both of which coincidentally occurred on day three of the subject's newest cycle and while she was menstruating, the time when she historically has reported the most severe symptoms. Throughout the third session, the subject expressed difficultly in lying on her back in one position for an hour, and found that her cramping and pain was becoming increasingly more uncomfortable the longer she stayed still. In lieu of stopping the session, she chose to alternate positions on the table between sitting up and lying supine, often twisting her back at the hips in order to stretch. During the seventh session, however, she reported feeling no such discomfort and was easily able to relax and receive work for the full hour in the typical supine position.

Observations/Symptom Records of Patient Throughout Course of Treatment

Diarrhea: The subject reported diarrhea the first day of treatment, but none after that at any point in her menstrual cycles.

Pain with bowel movements: The subject reported mild to moderate pain with bowel movements on days two and three of her second cycle, and mild pain only on day two of her third cycle. She reported no such pain after that point, including during the menses of her fourth cycle.

Nausea: The subject reported moderate nausea on the day of her first session that completely subsided with treatment. After that, she reported mild to moderate nausea during days one through three of her second cycle, but no nausea throughout the menses of her third and fourth cycles.

Pain with intercourse: The subject reported having intercourse on approximately 41% of the days that she charted; on 94% of those days, she reported no pain with intercourse (as soon as the first week of treatment). The remaining 6% occurred just prior to the menses of her second and third cycles and were reported as mild; just prior to the menses of her fourth cycle, she reported having no pain with intercourse. The subject said that because she was able to have pain-free intercourse, she felt that sex was better, more fun and more satisfying.

Headaches: The subject reported headaches throughout her cycles that occurred on 80% of the days on which she also reported both cramping and pelvic/abdominal pain. When comparing the first 41 days charted with the latter

41 days, the total headaches reported decreased 45%; the severity decreased as well, with 60% of her headaches in the first 41 days being reported as moderate or severe as compared with only 9% in the latter 41 days.

Cramping and Pelvic/Abdominal Pain: Both cramping and pelvic/abdominal pain were reported by the subject primarily in the days prior to menstruation, during menstruation and at a concentrated time period mid-cycle (possibly during ovulation, though there is no way to be certain). In the week before the subject's second cycle, she reported experiencing cramping and/or pain on four days out of 7; in the week before her third cycle, she reported the same symptoms only one day out of seven; and in the week before her fourth cycle, she reported the same symptoms for one day out of seven again, showing a noticeable decrease in the incidence of premenstrual cramping and pelvic/abdominal pain. The frequency of both symptoms during the subject's menses, however, actually first demonstrated a slight increase (she reported experiencing cramping and/or pain during 67% of the days of her second cycle's menses and 75% of the days of her third cycle's menses) before decreasing during her fourth cycle's menses to 29%. Regarding intensity of these two symptoms, cramping was reported as mild 75% of the time, as moderate 21% and as severe only 4%. Pelvic/abdominal pain was reported as mild 63% of the time, as moderate 33%, and as severe only 4%. It would seem from these results, when compared to the subject's self-evaluation of her symptoms during the pre-treatment interview, that the intensity of these two symptoms did decrease with reflexology. Additionally, the subject repeatedly noted throughout treatment that even on the days she experienced moderate or severe cramping or pain, these symptoms were often only present for a small portion of the day as opposed to the entire day as she was accustomed to experiencing prior to receiving reflexology.

Length of cycle: The average length of the three cycles that came to completion while the subject was charting is approximately 30 days, a length that is well within normal parameters for a "normal" menstrual cycle. The subject expressed surprise that she was experiencing cycles of relatively normal length: "I can actually predict when my period is going to come!"

Length and flow of menses: The length of her menses for the three periods charted averaged seven days, which, although on the lengthy side of normal, is still rather unremarkable. The subject's menstrual flow seemed to demonstrate a progression similar to that of her cramping and pelvic/abdominal pain during her periods: the heaviness of her flow first increased slightly from her second-cycle menses (two days of heavy flow, four days light) to her third-cycle menses (two days of heavy flow, one day extremely heavy and five days light) before decreasing noticeably during her fourth-cycle menses (light all seven days).

In addition to the results recorded in her daily logs, the subject noted other improvements in her health and personal habits at the end of the study. At the time she finished charting, she shared that she had been exercising more—which she attributed to not being in so much pain and having more energy—and said she had lost 17 lbs since her treatment began. She also disclosed that she had gradually reduced her nicotine consumption from one pack/day of regular cigarettes to a half-pack/day of low-tar cigarettes, and that "it really wasn't as hard as [she] thought." Regarding her psychological well-being, the subject claimed that reflexology has "made [her] more emotional, but in a good way." She described being generally more aware of and in touch with her emotions, and said she finds herself more readily able to express her feelings as they arise. She said that the best part of receiving reflexology was that it has helped reduce her pain and symptoms to levels that are tolerable and manageable "in as little as two months," and expressed an interest in continuing treatment in the future.

Considering her positive response to reflexology, while also taking into consideration the length and severity of her condition, the therapist recommended that the subject resume treatment at a frequency of at least once a week for at least one more complete menstrual cycle, at the end of which time her progress would be evaluated and a plan for further treatment determined.

Conclusion

Suggestions for future studies on reflexology and endometriosis include the possibility of more frequent treatment and charting of symptoms both eight weeks prior to treatment and eight weeks after treatment, as was done in Oleson and Flocco's study, in order to establish a more definitive baseline of symptoms and to further examine the enduring effects of reflexology after a course of treatment has ended. Conducting a study with women who are also charting daily basal body temperature and cervical mucous, or who are receiving lab work to monitor hormone levels, would additionally allow researchers to address the effects of reflexology on the irregular bleeding that many women with endometriosis experience, as bleeding could then be identified as either a true menses, mid-cycle spotting, anovulatory bleeding or some other type of dysfunctional uterine bleeding.

It is of course not possible to generalize from this case study as to the results reflexology might have on the entire population of women with endometriosis, conservatively estimated at about 5.5 million girls and women in North America alone (Endometriosis Association). The effectiveness shown in this study does, however, stand in support of continued exploration of reflexology's application

to sufferers of endometriosis, especially in light of the costs and limitations of current conventional treatment options for the disease.

No definitive estimates of overall estimated costs could be located regarding endometriosis, but the following potential expenses must be considered when examining how costly the condition is for the millions who are affected: lost wages from missed work or from job loss (and subsequent health insurance loss) resulting from pain; medication to manage symptoms and/or or reduce growth of lesions (analgesics, NSAIDs, and/or hormonal therapy); laparoscopic surgery to diagnose and/or treat (often requires multiple procedures as the disease progresses); hysterectomy (although its efficacy for treatment of endometriosis is largely unpredictable); treatment for infertility (including diagnostics, drug/hormone therapy and assisted reproductive technology); and mental health counseling to treat anxiety or depression related to the condition and its symptoms.

Conventional medical treatment for endometriosis is essentially limited to pharmaceutical treatment or invasive surgery. Analgesic and anti-inflammatory drugs can assist with reducing pain and discomfort but do nothing to either eliminate or prevent endometrial growths. Hormonal therapy that aims to reduce or suppress endometrial growths can often be reasonably effective, but typically comes with undesirable side effects and does not improve fertility or reduce the chances of recurrence once discontinued. Similarly, laparoscopies and hysterectomies provide relief for some women but no relief for others, and neither ensures complete cessation of endometrial growths. Considering both the limitations of these allopathic treatment options and the relative success of this case study, it is easy to conclude that reflexology—a safe, non-invasive healing modality that addresses and supports a woman's health in its constitution and not solely in its symptoms—is worthy of vigorous medical research focused on its ability to effectively address endometriosis.