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Reflexology for Migraine Headaches

Definition

The Mayo Clinic's published definition states "A migraine headache can cause intense throbbing or a pulsing sensation in one area of the head and is commonly accompanied by nausea, vomiting, and extreme sensitivity to light and sound. Migraine attacks can cause significant pain for hours to days and be so severe that all you can think about is finding a dark, quiet place to lie down. Some migraines are preceded or accompanied by sensory warning symptoms (aura), such as flashes of light, blind spots, or tingling in your arm or leg."ⁱ

According to the Migraine Research Foundation, "Migraine is not just a bad headache. Migraine is an extremely debilitating collection of neurological symptoms. Attacks usually last between 4 and 72 hours. For many sufferers, migraine is a chronic disease that significantly diminishes their quality of life."ⁱⁱ

Here are just a few of the statistics cited on the Migraine Research Foundations Fact Sheet:

- Migraine is an extraordinarily common disease that affects 28 million men, women and children in the United States. Nearly 1 in 4 U.S. households includes someone with migraine. (further, they estimate that half of all migraine sufferers are never diagnosed)
- About 18% of American women and 6% of men suffer from migraine (three times as many women as men suffer from migraine in adulthood, though in childhood—before girls' estrogen levels rise—boys are affected more than girls)
- Migraine is most common during the peak productive years, between the ages of 25 and 55
- More than 90% of sufferers are unable to work or function normally during their migraine (for more than 90% of all sufferers, migraine interferes with their education, career and social activities)
- While most sufferers experience attacks once or twice a month, 14 million people or about 4% have chronic daily headache, when attacks occur at least 15 days per month for more than 3 months
- Attacks are often accompanied by one or more of the following: visual disturbances; nausea; vomiting; dizziness; extreme sensitivity to sound, light, touch and smell; tingling or numbness in the extremities or face

- Depression, anxiety, and sleep disturbances are common for those with chronic migraine
- American employers lose more than \$13 billion each year as a result of 113 million lost work days due to migraine
- People with migraine use about twice the medical resources—including prescription medications and office and emergency room visits—as non-sufferers

When we consider the scope of this crippling condition, it becomes imperative to look for solutions to help sufferers diminish the frequency and severity of their symptoms and improve their quality of life.

Prior Research into Migraines and Reflexology

A limited number of research studies have been conducted exploring the effectiveness of reflexology in the treatment of migraines. These include:

1. "A Study of the Effect of Reflexology on Migraine Headaches" by Gail W. Testa, August 2000 (<http://gtesta.tripod.com/Dissertationall.htm>). Testa distributed questionnaires to migraine sufferers "through a network of reflexologists and from a website where volunteers could download a copy of the questionnaire. Reflexologists who received the questionnaire were asked to distribute it to any of their clients who suffered from migraine headaches. The questionnaire was worded carefully so as not to assume that reflexology had helped a sufferer's condition. Volunteers were assured that their names would not be used in the study and that any personal information would not be distributed. The forms were sent directly to the researcher and not returned to the reflexologist who had distributed the questionnaire and who may have performed reflexology on the volunteer. This ensured that the volunteer could be comfortable in answering the questions completely and honestly without fear of offending her practitioner." Over 100 questionnaires were distributed; 16 were returned. This study shows that all but two of the women (or 87.5%) reported a considerable decrease in the frequency, duration, and intensity of her headaches.ⁱⁱⁱ
2. "Effects of Treatment with Stimulation of the Reflexzones of the Foot with Regard to the Prophylactic Flunarizin Treatment of Patients Suffering from Cephalaea Headaches" by Aj. Lafuete, M Nouera, PUy, A Molins, F. Titus and F. Sanz. Dr Annemarie Kesselring, SBK, Institut fur Pflegeforschung, Bern. Thirty-two patients, ages 15-57, were randomly assigned to 2 groups. Group A received a placebo and received reflexology treatments twice a week for 2-3 months. Group B underwent prophylactic Flunarizin treatment and was given massages of a non-specific zone twice a week for 12 sessions. Participants kept a diary of headache frequency and

severity. Statistical tests showed no difference between the 2 groups regarding recovery and relapse. It was concluded that reflexology was at least as effective as Flunarizin and may be classed as an alternative non-pharmaceutical therapeutic technique for patients with no contraindications.^{iv}

3. "Headaches and Reflexology Treatment" by National Board of Health Council, Denmark, 1995. Two hundred and twenty patients presenting with headaches as their primary problem were treated by 78 reflexologists over a three-month period. Questionnaires were completed at the beginning and end of the series of treatments, and three months after the end of the series. Participants also kept a diary one month prior to the study and during the treatment time. Qualitative interviews were conducted at the end of the treatments. The results: 16% reported they were cured, 65% said reflexology had helped, and 18% were unchanged. Conclusion: reflexology is able to cure or help both tension and migraine headaches in a significant number of patients.⁴
4. "Reflexology and Migraine Headaches," an unpublished report available from FDZ Research Committee, Denmark. Of 100 applicants, 23 of the worst cases were selected for the study. These patients had suffered frequent migraine headache attacks, usually over the course of several years, and had been treated with morphine, ketogan and albergin medications. Of the 20 participants who completed the study—an average of 12 sessions per patient—the reported results (based on the patients' evaluation of their own condition) were: 9 no longer had headaches (45%), 6 felt considerable improvement (30%), 2 felt a little better (10%) and 3 felt no improvement (15%).⁴
5. "Clinical Observation on Treatment of Migraine with Reflexology" by S. Song and Q. Song; 2000 China Reflexology Symposium Reports, Beijing: China Reflexology Association, pages 1-2. In this study, 60 participants ages 16-60 (both male and female) who had suffered migraines for a period ranging from 6 months to 10 years were divided into 2 groups of 30 persons each. A control group was given only conventional medicine. The treatment group was given 20-30 minutes of foot reflexology daily for 2 weeks. In the treatment group: 3 cases were healed, 22 cases were relieved, and 5 cases had no results, for a total success rate of 83.33%. In the control group: 2 cases were healed, 18 cases were relieved, and 10 cases had no results, for a total success rate of 66.67%; in addition, participants in this group reported side effects including insomnia (5 cases), dry mouth and nausea (3 cases). Conclusion: foot reflexology was more successful.^v

Subject

The subject of this case study is a 43-year-old single female. She lives alone with three dogs and works as an environmental consultant—a professional position working weekdays divided between deskwork and fieldwork. She suffers from migraines and frequent headache pain, fibromyalgia, allergies, digestive problems including constipation and irritable bowel syndrome, premenstrual syndrome and menstrual symptoms, and emotional issues related to chronic pain (She reports, “I get irritable and emotional with the lead-up to a migraine, and then I am completely exhausted following—it feels like a mild case of bipolar”).

She reports that her migraines started in her early twenties. She had migraines infrequently in college, though chronic headaches were noticeable, and migraines became frequent after a car accident in 2000. At present, she reports having at least one migraine per month lasting from four hours to two days.

The subject has not been able to identify a specific trigger for migraines, but believes that multiple factors have a compounding effect, including stress, food (usually salt-heavy seasonings), lack of sleep, severe weather changes, her monthly menstrual cycle, and heat exhaustion from work or exercise. Migraines are causing her to miss at least one day of work per month, and she also reports, “Productivity is shot if it is not a full-on migraine and I work through it.” When asked if migraines affect any other activities of daily living, she replied, “When a migraine hits, nothing gets done, especially for a day or so following. I get irritated and let everything fall by the wayside.”

Currently under a doctor's care only for annual physicals, the subject occasionally takes over-the-counter Ibuprofen for “basic pain” and Loretadine for allergy relief. For treatment of migraines, she reports she “went to neurologists and migraine specialists, tried standard prescriptions but they made me nauseous. Tried acupuncture—it didn't make a difference in frequency, plus it was a bit uncomfortable. I try to meditate regularly, which ends up being for a week, then I stop, and 2 months later pick it back up. I go to a massage therapist monthly.”

Other healthy habits include a vegetable-heavy diet, fresh local poultry and eggs, drinking at least 8 glasses of water a day, and running 2-3 times per week and “Daily Burn” workouts randomly. Subject does not smoke, drinks one 16-oz cup of coffee each morning, and drinks 1-2 alcoholic beverages per month.

Treatment Plan

The subject agreed to receive reflexology once a week for 7 weeks, every Tuesday at either 4:00 or 5:00 pm. She lay in a supine position with her head supported and usually requested either a sheet or sheet and blanket to cover up with. Lights were low and fans were used to block outside noise, but no music, scents, lotion or other therapies were included in the sessions.

The one-hour sessions included twenty minutes on each foot and ten minutes on each hand, always starting with the right foot, then left foot, then left hand, then right hand. Both feet were worked fully, with emphasis on reflexes related to the central nervous system, plus the solar plexus and the Vagus nerve reflexes, the endocrine system, the reflex point for SP6, and very thorough attention given to the halluxes and the reflexes related to brain, neck and sinuses on the other digits. The work on the hands was necessarily abbreviated, but included relaxation techniques and attention devoted to reflexes related to central nervous system, endocrine system, and full pollexes plus points on the other digits related to brain, neck and sinuses.

The techniques used for relaxation on both feet and hands included rubbing and cleaning out meridians, compression pulls, alternating pulls, spreading, knuckle roll, toe circumduction and jiggle with traction (not done with fingers). Primary techniques used were knuckle-walking (plantar surfaces proximal to pelvic line), thumb walking, finger walking, and milking (on feet).

In addition, the subject agreed to keep a home journal starting 10 days before the first session, and tracked the following information (see appendix):

- pain levels morning, lunch, dinner, bedtime*
- stress level for the day
- fluid intake
- generally whether food intake was good/normal or noting anything unusual
- exercise
- other therapies (primarily meditation; subject agreed to not receive massage, acupuncture, chiropractic adjustments or other during course of case study)
- medication taken
- sleep quality and duration
- any menstrual symptoms
- any significant weather impacts
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* Subject clarified that on a scale of 1-10 with 10 being the highest, she rarely rates headache pain over a 7 because she is accustomed to pain. She explained that a 1 means pain is barely present; 2-3 means pain is constantly

present and more annoying; 4 is what she usually qualifies as the beginning of a migraine; 5 is when visual disturbance (aura) typically occur; 6 is when she experiences nausea; 7 is maximum pain that she estimates most people would rate as a 9.

Session 1, 12/22/15

Pre-session: Subject reported feeling exhausted-and having a raging headache. She presented with slouched posture and drawn facial expression.

During session: While I worked on brain reflex points on the 3rd and 4th digits of the first foot, subject commented, "It's amazing how I can feel tingling on the top of my head." SP6 points were tender on both legs; on second leg subject jumped as if a jolt of electricity had shocked her and exclaimed, "That was *quite* a reflex!"

Otherwise subject did not indicate any tender or sensitive points. I noticed congestion along R plantar shoulder line zones 2-4 and also zones 2-4 between shoulder line and diaphragm line; plantar zone 1 between diaphragm and waist lines near adrenal gland reflex bilaterally; L plantar zone 1-2 proximal to waist line; L plantar zone 4 just distal to waist line; L plantar zone 5 in shoulder reflex area just proximal to shoulder line; palmer surfaces bilaterally zone 1 just proximal and just distal to shoulder line.

Post-session: Subject reported feeling relaxed; pain was "knocked down to a tolerable level." She remarked that she felt dizzy while rising from the table.

Session 2, 12/29/15

Pre-session: Subject presented with a headache she rated as a 4. She commented that her hair getting longer may be a factor—it's too heavy. Also she commented about the weather (it was humid and warm). She also noted that she's getting a new mattress after the first of the year in case the old mattress might be a factor in difficulty sleeping and headache pain.

During session: Subject flinched as SP6 was being worked, bilaterally. She jumped and had an audible reaction to mid-medial arch on L foot (near waist line). She complained of headache pain while brain reflex point was being worked on 4th digit of R foot. Her nose started itching while R hand was being worked.

I noticed a lot of congestion in proximal plantar surfaces bilaterally, zones 3-4 R and 2-4 L. I noticed tension in L zone 1 plantar from pelvic line most of the way to the diaphragm line. I noted congestion in R plantar zones 2-4 proximal to the shoulder line, and bilaterally on the lateral edges of the plantar surfaces of both halluxes distal to the shoulder line.

Post-session: Subject said headache still present but much less severe. Stated she felt relaxed; very sleepy. She mentioned feeling dizzy upon rising up from table. Subject commented that the work on the feet was more relaxing and helped her headache more, but she felt an amazing amount of tension in her hands—almost like I had to pry them open (I did not notice unusual tension in hands).

Session 3, 1/5/16

Pre-session: Subject reported that a headache had started yesterday, and that she was currently experiencing pain (rated as level 3) and pressure on both sides of her head and near the back of her head.

During session: Subject smiled during session but was very quiet. She reported that her left foot was much more sensitive than the right, but only mentioned tenderness in the middle of the plantar surface of the left foot—from between zones 1 and 2 to zone 4 just distal to the waist line.

I noticed a change in the subject's feet—there were many fewer areas of congestion during this session. I noted congestion on the R plantar surface zones 1-5 just proximal to the shoulder line, also R plantar zone 1 proximal to the diaphragm line, and bilaterally on the lateral edges of the plantar surfaces of both halluxes distal to the shoulder line. I noted congestion on the R palmar surface zone 4 proximal to the waistline, and bilaterally on the pollexes just distal to the shoulder line.

Post-session: Subject reported feeling very relaxed, head not bothering her at all. She was much chattier after the session and reported increased feelings of wellbeing.

Session 4, 1/12/16

Pre-session: Subject reported feeling exhausted. She is sleeping on her new mattress on the floor temporarily and it is too firm. (She mentioned she feels she is gaining weight and wants to find a new doctor to have thyroid level checked.) She presented with a headache but said it was minimal.

During session: Subject reported “tingling” in her head while dorsal surface of L foot was being worked, and also while pollexes were being worked on. She noted sensitivity/tenderness on SP6 of L leg and mid-medial arch of L foot.

I noted congestion mid-medial arch bilaterally, plantar surface zone 1 distal to waist line bilaterally, lateral edge of plantar halluxes distal to shoulder line bilaterally; also plantar shoulder line L zones 2-4, L plantar between diaphragm and shoulder lines zones 3 and 5; plantar R zone 4 distal to diaphragm line and zone 2 proximal to shoulder line. I also noted congestion bilaterally in pollexes

just distal to shoulder line, on R palmar surface zone 1 between pelvic and waistlines, and L palmar shoulder line zones 3-4.

Post-session: Subject reported feeling relaxed and stated that her “head felt good” [emphasis hers]. She reported *after* the session had concluded that she had felt more sensations in her hands than feet during the session, but in previous sessions she had felt more in her feet, and it’s “interesting how it moves.” She had not pointed out any sensitive/tender points in her hands during the session.

Session 5, 1/19/16

Pre-session: Subject did not mention any headache pain, just reported feeling tired. She is getting used to her new bed but feels it might be too firm; she’s not sure she’s sleeping any better than she did on the old mattress.

During session: Subject noted a very sensitive spot on the L plantar surface, zone 2 just proximal to diaphragm line (around solar plexus reflex point); and also winced and commented how very tender virtually the whole longitudinal arch was on L foot, medial aspect.

I noted congestion bilaterally on plantar surfaces zones 1 and 5 just proximal to the shoulder line; also R plantar zone 4 between diaphragm and shoulder line, and L plantar zone 2 just distal to diaphragm line, as well as L plantar zone 1 between waist and diaphragm line and L plantar zone 2-3 just distal to waist line. I also noted congestion on L foot dorsal surface zone 2 between diaphragm line and shoulder line, and R palmar surface zone 1 between pelvic line and waistline.

Post-session: Subject stated that she *did* have a mild headache when she arrived for the session, and now it was *completely* gone [emphasis hers]. She reported feeling very relaxed [emphasis hers].

Session 6, 1/26/16

Pre-session: Subject appears energized. She reported that she felt good. She noted that her back was sore from moving/planting plants. Subject reported that she had started a period and that her flow is *much lighter* this time [emphasis hers]. (She did not mention headache at this time—on Tuesday—but reported that she had had a headache on the previous Thursday after eating Asian food on Wednesday, and had a headache on Friday probably because of her cycle.)

During session: Subject noted tenderness at SP6 point on R leg, and bilaterally on mid-medial longitudinal arches.

I noted less congestion during this session. Congested points were noted bilaterally on plantar surfaces in the following places: proximal to pelvic line (zone 4 R and 3 L), between diaphragm and shoulder lines (zones 2 and 4 R and zones 3 and 4 L), and on lateral edge of halluxes distal to shoulder line. Only other area of congestion noted was R palmar surface zone 2 proximal to waistline.

Post-session: Subject commented, "I always feel better the night after a session. I tense a little on the way home 'cause I have to drive, but then it [relaxation] rebounds. I sleep better and wake up without a headache the next day."

Session 7, 2/1/16

Pre-session: Subject noted that she had slept very well the night before; she remembered dreaming which is unusual for her. She felt "almost manic" today. She was having pain in L "ball of the foot," possibly from exercise (had done "burpies" the previous day in bare feet). She reported having eaten bread on the previous Thursday and had a bad gastro reaction. I noted that she appeared flushed in the face.

During session: Subject appeared more awake/alert and noted more tender/sensitive spots during this session: SP6 points bilateral, bilateral longitudinal arches medial and plantar from waist line to diaphragm line, L plantar zone 3 proximal to diaphragm line.

I noted congestion bilaterally along medial aspects and plantar surfaces of both longitudinal arches from pelvic line to diaphragm line. I also noted congestion bilaterally in plantar zone 5 just proximal to shoulder line. Congestion also noted in L plantar zone 1 most proximal point proximal to pelvic line, zone 3 just distal to pelvic line, zone 2 just proximal to shoulder line, zone 4 proximal to shoulder line, and zone 5 just distal to diaphragm line. Finally, I noticed congestion bilaterally in palmar surfaces zone 1 just distal to pelvic line.

Post-session: Subject reported that her left foot still hurt but it felt more flexible. Overall she stated she felt very relaxed. I noted that her color was better and her breathing had slowed.

Results

The subject met with me ten days after the final session to discuss how the reflexology sessions had affected her overall. She originally agreed to keep her home journal for those ten days but unfortunately neglected to do so. She summarized that in those ten days she had felt "pretty good" and had only had one significant headache, on a day when a big storm developed.

Asked about how she felt the reflexology sessions had impacted her daily living, she said she noticed a “huge difference” on the days she received reflexology, “a big difference between coming in to the session and leaving.” She recapped that she always felt very relaxed after the sessions, got a good night’s sleep, and generally woke up with less headache pain the mornings after sessions.

The subject commented that during the case study ~~any~~ changes in her pain patterns “didn’t seem significant at the time, but looking back, the pain was less severe and I was able to work more.” She shared that in her experience, migraines tend to follow “seasons,” and that other migraine sufferers she knows all agreed that the time period of the case study had been a “bad season” and they all noted greater than usual headache frequency and intensity. The subject stated that during the case study time period, “I had a lot of headaches, but they weren’t as intense even though it was a ‘bad season.’ For the most part they were pretty mild.”

When asked about missing days from work the subject recalled that it seemed like there were not as many. Because the headaches she experienced were less severe, she said she had “less [missed days] than there would’ve been given the same number of headaches” without reflexology sessions. Upon reflection and review of notes, subject reported that she *missed no days of work* over the course of the seven-week case study (she went home early “a few times” due to headache pain), even though she reported in her intake questionnaire that she typically missed “at least one day of work per month.”

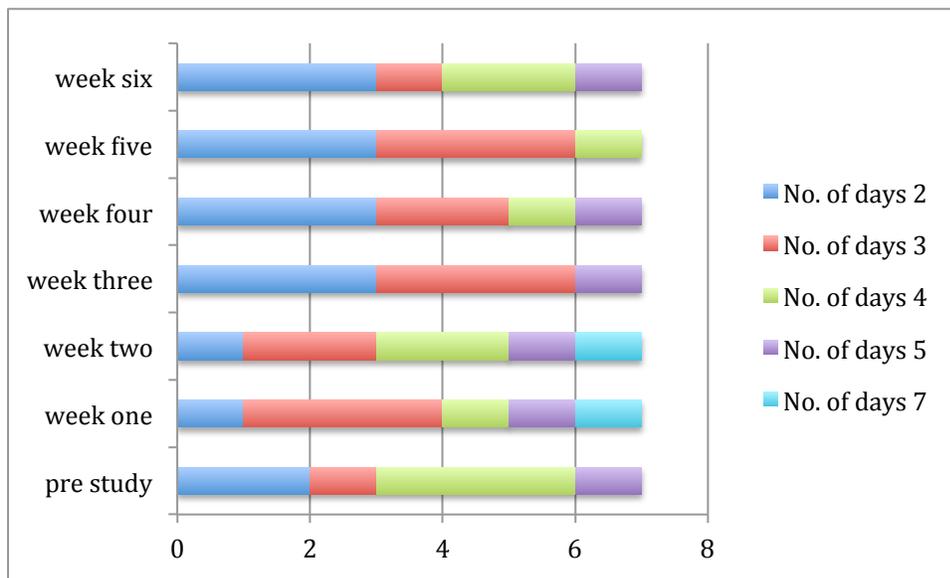
When asked if the reflexology sessions impacted her mood during the course of the study, she replied, “Yes, my mood was improved. I was not as irritable. My outlook upon waking was improved.” This is correlated in her statement upon arrival for her final reflexology session at which time she reported feeling “almost manic.”

The subject did not notice any change in her appetite over the course of the case study.

The subject did notice an increase in the duration and quality of sleep, and attributed it possibly to a combination of reflexology sessions, a new bed, and a commitment to practice mindfulness meditation daily.

When asked if the subject noticed a difference in her menstrual cycle, she said definitely yes. Her last period was “weirdly light when they’re usually pretty hard” in terms of flow, cramping and fatigue.

To quantify the results, I looked at the *highest* pain level recorded each day and compared week to week in the following chart:



The subject stopped recording data on day two of week seven, the day of the final reflexology session. Those two days of data were not included since it comprised less than a full week.

Even though the subject was given a scale of 1-10, she consistently rated her headache pain from 2-7, and never used a level of 6 as her highest level on any given day.

As we can see, she never rated her pain at a level as high as 7 after the second week of the case study. From weeks 3-6, the subject went from a 7 as a high for the week, to an average of 4.75 for the week, a reduction of almost 32 percent. Also, the days in which her pain levels reached only as high as a 2 increased from 1-2 days/week to 3 days a week consistently as the case study went on.

Conclusion

Weekly reflexology sessions were successful in reducing pain levels for this migraine sufferer. The case study subject went from missing 1+ days of work per month to missing zero days of work. The subject also reported increased duration and quality of sleep, an improved outlook (decreased irritability), and decreased severity in menstrual symptoms.

The positive outcomes noted in this case study support further research into the use of reflexology to help migraine sufferers reduce symptoms, cope with symptoms, reduce time lost at work, and improve quality of life.

ⁱ www.mayoclinic.org/diseases-conditions/migraine-headache/basics/definition/con-20026358, by Mayo Clinic Staff

ⁱⁱ Migraine Research Foundation Fact Sheet:
<http://www.migraineresearchfoundation.org/fact-sheet.html>

ⁱⁱⁱ Testa, Gail W., "A Study on the Effects of Reflexology on Migraine Headaches." August 2000. <http://gtesta.tripod.com/Dissertationall.htm>

^{iv} "Research Studies Evaluating the Effectiveness of Reflexology for Headaches and Pain Conditions," in Research Abstracts.
<https://pacifireflexology.com/abstract/Headaches%20>

^v Reflexology Research, "Reflexology For Headaches,"
<http://www.reflexologyresearch.net/ReflexologyHeadacheResearch7.shtml>