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Reflexology For The Restoration Of Diminished Olfaction As A Result Of A TBI

One example of success has been found in the study in a 57 year old woman in China. Subject suffered a cerebral concussion, painful forehead, red, swollen right eye, congestion of eyeball and right nasal nerve block after falling off her bike, was given foot reflexology daily after unsuccessful treatment with Traditional Chinese and Western Medicine. An x-ray showed mild brain hemorrhage, and cerebral concussion. After the third treatment, her dizziness and headache were reduced. After four treatments (each course was ten sessions), her symptoms were gone except for nerve block in right nose. She was treated with foot reflexology every other day and massaged on the hand focusing on the nose reflex areas. She was cured and able to breathe freely. Zhong, Z. and Xie, Q., "One Case Report on Curing Nasal Nerve-Block with Foot Reflexology." 1996 China Reflexology Symposium Report, Beijing: China Reflexology Association, pages 115-116. Foot and hand reflexology were found to be effective for the relief of nasal nerve block.

My subject is a 37 year-old woman that suffered a Traumatic Brain Injury (TBI) in August 2014 and has since had very little or no olfaction (sense of smell). No other attempts to resolve this issue had been made when the subject was approached by the therapist for participation in this study.

This study of Reflexology and the attempt with it to restore the subject's sense of smell will be presented from two perspectives; firstly, that of the subject and secondly, that of the therapist.

Subject has noted being able to pick up on the taste and scent of cilantro and garlic only since her accident. All other senses are intact and client states no other residual effects from her TBI, other than depression which she has been prescribed Sertraline by her medical doctor. Client stated that she is otherwise in healthy condition with daily exercise and the only other health history mark is a stiff neck with stress.

During pre-session interview the subject was asked if there is a particular smell that she really misses. Subject responded with 'Flowers' first. Then coffee which she stated that she rarely drinks anymore, only for its caffeine maybe once a

week, and that it is like drinking “hot, bitter water” now. The subject then stated that she really just misses smelling food in general! Therapist had also asked if subject had noticed any association with tasting bringing out her sense of smell, to which the answer was “no”.

Subject and therapist agreed to meet once a week at 10:00AM on Tuesdays for six weeks at the therapist’s office, beginning December 6, 2016 and ending January 10, 2017. Treatment plan is sixty minutes of combined hand and foot reflexology on the reflexes of the nose, mouth/tongue, sinuses, brain, cerebrum, and cerebellum with equal time spent between each hand and foot. The subject is given one to two minutes to get up from the treatment table after the session while the therapist goes to retrieve the smell test substances. The therapist re-enters the room with a small tray draped in a white towel, under which test substances are held. The subject is asked to sit upright on a chair with closed eyes. Therapist then has subject smell four different substances, each housed in a small glass bowl. The subject is then given sufficient time (approximately 15 seconds, or three to four long inhales through the nose) to try to identify what she is smelling, if anything. The subject agreed to using a scale of zero to five to document what level of smell recognition she is experiencing. Zero being nothing sensed and five being very intense. The subject was also given a diary to document her experiences between our sessions together and was given a take-home handout with illustrations for working her own brain reflexes. Subject was asked to put forth effort to work her own brain reflexes daily.

Subject was informed that, for the sake of enriching our time together, no other modalities will be used during our sessions. ie.) Soft music, aromatherapy, massage therapy. The subject had, up until then, been a massage therapy client of mine and agreed to forego those sessions to be in this research case study. Subject was given a bed pillow under her head, a bolster under her knees, and covered with a blanket. The treatment table was also heated and the lighting kept low during the sessions. The protocol was to spend equal time on each hand and foot, beginning with work on the left foot. Here is the detailed protocol:

- Rub and clean out meridians
- Compression pull
- Alternating pulls
- Thumb walk plantar Pollux through cerebellum and cerebrum reflexes
- Micro-friction and holding done on congestion found
- Dorsal Pollux, point work on nose reflex, mouth/tongue reflex
- Press and Roll sinus reflex, Zone 1

- Press and Roll brain reflex, Zone 1
- Press and Roll sinus reflex, Zone 2
- Press and Roll brain reflex, Zone 2
- Press and Roll sinus reflex, Zone 3
- Press and Roll brain reflex, Zone 3
- Press and Roll sinus reflex, Zone 4
- Press and Roll brain reflex, Zone 4
- Press and Roll sinus reflex, Zone 5
- Press and Roll brain reflex, Zone 5
- Compression pull to end work on left foot

The same protocol was followed on the right foot. Followed by work on her hands. Here is the protocol used, beginning with her right hand:

- Rub and clean out meridians
- Compression pull
- Alternating pulls
- Thumb walk palmar Hallux through cerebellum and cerebrum reflexes
- Micro-friction and holding done on congestion found
- Dorsal Hallux, point work on nose reflex, mouth/tongue reflex
- Press and Roll sinus reflex, Zone 1
- Press and Roll brain reflex, Zone 1
- Press and Roll sinus reflex, Zone 2
- Press and Roll brain reflex, Zone 2
- Press and Roll sinus reflex, Zone 3
- Press and Roll brain reflex, Zone 3
- Press and Roll sinus reflex, Zone 4
- Press and Roll brain reflex, Zone 4
- Press and Roll sinus reflex, Zone 5
- Press and Roll brain reflex, Zone 5
- Compression pull to end work on right hand

The same protocol was followed on the left hand.

The subject was then given a moment to get off the treatment table and seated in a nearby chair. We then proceeded with the smell tests using the zero to five scale that we had agreed upon. Here are the results.

Session 1: December 6, 2016:

Substance #1- chocolate: Subject was given three long inhalations. Subject related that she was picking up on something but could not specify on what it was. "1" was given.

Substance #2 - vanilla extract: Subject was given three long inhalations. Subject thought she was picking up on something but could not decipher it. When coaxed to try she stated that it was possibly almond extract. "1" was given.

Substance #3 – peppermint essential oil drop on cotton ball: Subject was given three long inhalations and stated that it "smells kinda minty". "1" was given.

Substance #4 – ground coffee: After one long inhalation the subject stated, "That's coffee!". "3" was given.

Subject was then given her At-home diary and went along her way.

At-Home Diary

December 7, 2016: I was supposed to get a massage today! I switched it to a facial instead so I didn't interfere with this study. ☺ I drank coffee today because I was so excited that I could smell it yesterday!

Self-care: Yes, 5 min. fingertips

December 8, 2016: Smelled coffee at the office.

Self-care: Yes, 5 min. fingertips

December 9, 2016: Self-care: Yes, 5 min. fingertips

December 11, 2016: Self-care: Yes, 5 min. fingertips

December 12, 2016: Self-care: Yes, 5 min. fingertips

Session 2: December 13, 2016:

During our pre-session sit down I asked the subject if she has anything to report from the past week. She stated that she has enjoyed multiple cups of coffee this past week as she has begun to smell and taste it!

Precisely the same protocol used for our session today. Congestion noted in left foot brain reflexes in Zones 2 and 3. Bilateral congestion in cerebellum reflexes of feet. Left hand sinus reflexes in Zones 4 and 5 at distal ends. Left hand brain reflex Zone 4. Bilateral proximal cerebellum reflexes in hands. When I asked how

she felt after the session she stated, "relaxed" but that she experienced sharp pain in the tips of digits 3 through 5 in both feet, more so on the right foot.

Here are the result of the smell tests:

Substance #1- fresh sliced orange: Subject stated picking up a scent, when asked for a descriptive word she stated "alcohol". "2" was given.

Substance #2 – vanilla extract: Subject gave a "1", no smell recognition.

Substance #3 – fresh rosemary: "Indistinguishable flowery smell", subject gave a "2".

Substance #4 – rubbing alcohol on a cotton ball: Subject stated that this was a "strong smell but indistinguishable." When asked if she could give a descriptive word she used "flowery". A "3" was given.

Homework given: Continue self-care. Take note if she notices catching any aromas while out and about.

At Home Diary

December 13, 2016: Self-care: Yes, 5 min. fingertips

December 14, 2016: Self-care: Yes, 5 min. fingertips

December 16, 2016: I THOUGHT I smelled BO (body odor) at the airport. I asked my BF (boyfriend) Nick, if that's what he was smelling and he said, "Yes, but really it was the pizza that the guy just walked by was holding." HA!

Self-care: Yes, 10 min. (flights are boring!)

December 18, 2016: Cinnamon smell at the airport! Self-care: Yes, 10 min. (return flights are just as boring!)

December 19, 2016: Self-care: Yes, 5 min. fingertips

Session 3: December 20, 2016

During our pre-session reports the subject shared her airport story of smelling body odor that was actually airport pizza! She also shared that she can smell the "minty" in gum and that on Friday, December 16th and Sunday, December 18th she picked up on barbeque sauce and that it was "tangy".

Same protocol used for today's session. Congestion noted in left foot cerebellum reflex and brain reflexes in Zones 2 and 3, right foot cerebellum reflex and brain reflex in Zone 3, right hand cerebellum reflex and sinus reflexes in

Zones 3 and 5 (subject appeared to have dozed off for a moment here), and left hand cerebellum reflex as well as sinus reflexes in Zones 4 and 5. After the session subject shared that she still experienced a “sharp” sensation on the tips of her toes as well as some fingertips, which ones were not specified. She also shared that this sensation was not as intense as week two and that week two was not as intense as week one.

Here are the results of the smell test:

Substance #1- chopped yellow onion: Subject stated “I don’t know what it is, but I don’t like it.” She then gave a “3” from the scale and stated that she can smell something but cannot distinguish what it is.

Substance #2 – ground cinnamon: Subject gave a “1” and reported that she “can’t tell”.

Substance #3 – peanut butter: Subject gave a “1” and reported “vanilla-y”.

Substance #4 – fresh rosemary: Subject gave a “1” and reported that she “can’t tell”.

Subject shared after the smell test that she believes that her being slightly congested in the past week may have affected today’s test. Therapist acknowledged that as well with the congestion she had felt in some of the subject’s sinus reflexes.

Homework given: Continue self-care. Take note if noticing aromas while eating.

At Home Diary

December 21, 2016: Went to a holiday party at Mario’s. Smelled actual pizza? So I think baked crust and cheese. Self-care: Nope

December 22, 2016: Self-care: Yes, 5 min. fingertips

December 23, 2016: Self-care: Yes, 5 min. fingertips

December 25, 2016: For Christmas, my brother made a ham. I smelled loves! Self-care: Yes, 5 min. fingertips

December 26, 2016: I heard my kitty in her litterbox, which reminded me to scoop it. When I went to scoop and removed the cover, I could smell cat poop. Gross, but cool, I guess. Self-care: Yes, 10 min. fingertips

Session 4: December 27, 2016

Subject reports smelling cloves and tasting oranges. She also reported her sinuses feeling "cleared-up" after our session last week.

Same protocol used for today's session. Congestion noted by therapist in the cerebellum reflex of left and right foot, right hand cerebellum reflex and sinus reflexes in Zones 2, 3 and 5, and left hand cerebellum reflex as well as sinus reflexes in Zones 3 and 5. Subject reported "sharp" sensation in the reflexes of the brain in Zones 4 and 5 in both feet.

Here are the results of the smell test:

Substance #1- peppermint oil drop on a cotton ball: "Smells kinda minty" and gave a "2".

Substance #2 – ground coffee: Immediately identified as coffee and was given a "3" for smell intensity.

Substance #3 – peanut butter: Nothing noted. "0" given.

Substance #4 – lemon extract: Subject stated "Citrus-y for sure" and gave this a "3".

Homework given: Continue self-care with particular attention to the cerebellum reflexes. Therapist demonstrated how to do this and where those reflexes are.

At Home Diary

December 28, 2016: Lunch meeting – smelled tator tots. Self-care: Yes, 5 min. fingers, 5 min. toes.

December 30, 2016: Self-care: Yes, 5 min. fingertips, 5 min. toes.

January 2, 2017: Happy New Year! Tasted tomato juice in bloody.
Self-care: Nope

Session 5: January 3, 2017

Subject reports both smelling and tasting a beef roast, smelling her cat's feces, and smelling citrus (limes and grapefruit). Same protocol used for today's session. Congestion noted in the cerebellum reflexes in both of the subject's feet and hands. Therapist did noticed much less congestion throughout the subject's sinus reflexes. Subject shared that she has felt much clearer in the sinuses since last week as well.

Here are the results of the smell test:

Substance #1- distilled vinegar: Subject could not decipher the substance, but stated she "felt a biting or burning feeling, for lack of better description". Gave a "3".

Substance #2 – ground cinnamon: Subject gave a "1" and stated that there was "something there in the beginning but it doesn't come through".

Substance #3 – almond extract: Subject stated that substance was "sort of sweet" and gave it a "3".

Substance #4 – fresh basil: Substance noted as "flowery" and given a "3".

Homework given: Continue with self-care and take note of any new smells.

At Home Diary

January 4, 2017: Self-care: Yes, 5 min. fingertips

January 5, 2017: Self-care: Yes, 5 min. fingertips

January 6, 2017: Self-care: Yes, 5 min. fingertips

January 8, 2017: I made spiedini for my bros and BF (something my Ma used to make) – I think I tasted the sirloin and onions and tomatoes. Self-care: Nope

January 9, 2017: Self-care: Yes, 5 min. fingers and 5 min. toes

Final Session: January 10, 2017

Client reports smelling grapefruit juice. Same protocol followed for this session. Congestion noted by therapist in sinus reflexes in Zones 3 and 5 of the left hand and sinus reflex in Zone 3 of the right hand. Cerebellum reflex congestion noted in both feet and hands as well.

Substance #1- canned tuna: Subject stated that her "brain can't place it". When asked for a descriptive word she stated, "strong coffee" and gave substance a "3".

Substance #2 – chopped white onion: Subject stated that substance was "really strong". When asked for a descriptive word, she said "onion-y" and gave a "4".

Substance #3 – cooked bacon: Subject gave substance a "4" for level of smell intensity but she could not place what the aroma was.

Substance #4 – fresh flowers (star-gazer lily and pink rose): Subject stated that substance "smells flowery" and gave a "4".

Homework moving forward: Work on re-familiarizing brain with aromas by smelling things as she eats them or comes into contact with them.

Results

Subject shared the following statement, "I looked forward to my sessions every week. They were relaxing and made me hopeful. It was a great experience and I appreciate having been afforded the opportunity. I can smell some things now and I intend to continue reflexology sessions so that I can smell even more!"

I saw a definite improvement in the subject's sense of smell. From being able to smell ground coffee after our first session together and enjoying it more regularly from then on, to following her excitement as her sense of smell picked up on aromas that had been lost to her since her TBI, to watching the numbers used for our measuring scale on smell intensity rise, I find it very clear that the subject had a notable improvement in her olfactory system. The evidence speaks for itself.

Resources

<http://www.reflexologyresearch.net/ReflexologyNoseResearch3.shtml>

Zhong, Z., and Xie, Q., "One Case Report on Curing Nasal Nerve-Block with Foot Reflexology." 1996 China Reflexology Symposium Report, Beijing: China Reflexology Association, pages 115-116.