CAN KINESIOLOGY HELP TO REDUCE FREQUENCY AND SEVERITY OF MENOPAUSAL HOT FLUSHES?

1. ABSTRACT

A. **Importance.** The quality of women's lives is significantly impacted by menopause related to hot flushes (vasomotor symptoms). Pharmacological solutions are often accompanied by numerous side effects and increased health risks. Finding an alternative medicine method to improve menopause symptoms would benefit a large number of women.

B. **Objective.** The purpose of this research is to ascertain whether kinesiology can help to reduce the frequency and severity of vasomotor symptoms.

C. **Design.** 6 women at different stages of menopausal transition, were selected to receive several kinesiology sessions designed to improve hormonal regulation. The severity of hot flushes and extent of other menopausal symptoms have been measured via a self-assessment questionnaire (Menopausal Rating Scale). The frequency of hot flushes has been recorded by subjects over a 10-day period before and after the treatment.

D. **Results**. The average reduction of frequency of flushes is 36%. The average reduction of severity of flushes is 33%. The average improvements in Menopause Rating Scale score is 31%.

E. **Conclusion.** Results of this study show that overall kinesiology can have an effect on reduction of frequency and severity of hot flushes in menopausal women. Although due to the small sample size, absence of placebo group and some other quality control limitations, this work presents only a very weak evidence of effectiveness of kinesiology on menopausal symptoms. However, this is an area of research that is worth pursuing.

2. INTRODUCTION

The quality of women's lives is significantly impacted by biological changes associated with menopause. Hot flushes is one of the most common symptoms that occur in menopausal women. Up to 85% of women experience vasomotor syndrome during menopause transition (Roepke, 2010). Hot flushes are embarrassing and uncomfortable, they disrupt women's normal activities, including sport, work and sleep. Interruptions of sleep by night sweats cause chronic tiredness, which in turn

perpetuates the chain reaction of emotional and physical exhaustion. The severity, duration and pattern of vasomotor symptoms vary dramatically from individual to individual (Coney, 1993, p 86). Hot flush symptoms persist, according to different sources, from 2 years to as long as 20 years (Avis, 2015),(Freedman, 2013),(Australian Menopausal Society, 2016, p 2). Women who start having hot flushes at the peri-menopausal stage appear to suffer the longest (Avis, 2015), (Australian Menopausal Society, 2016, p 2). Some studies show a correlation between psychosocial factors and duration of vasomotor symptoms. (Coney, 1993, p 86, p 90). Women with less emotional and financial stress in their lives, greater social support and stability suffer from vasomotor symptoms for significantly shorter periods of time (Avis, 2015).

With increase in recent years interest in alternative medicine, more research is needed in health maintenance modalities. Kinesiology can be a viable option for many women looking for risk free, effective and affordable solution for hot flushes.

3. BACKGROUND

A. **Menopause.** Menopause is a change in ovarian function that occurs naturally in women at the end of their reproductive cycles. The main feature of menopause is that the release of oocytes is not triggered in ovaries by gonadotropic hormones released by the hypothalamus (Marieb, 2007, p1105). This means that ovaries stop producing sufficient quantities of sex hormones, progesterone and oestrogen. Progesterone appears to be a crucial factor in cell destruction function; and oestrogen is important in tissue growth. Balance between these two hormones is crucial for all clocking mechanisms, such as temperature regulation, sleep-wake cycle, growth and atrophy of tissues, response to stress and immune function (Wiley, 2003, p 15). Menopausal changes are thought to be initiated not so much by ovaries, but by changes in the brain, specifically the hypothalamus (Coney, 1993, p 88) (Roepke, 2010).

B. **Symptoms.** Hormonal changes in menopausal women are often accompanied by several types of symptoms (Australisian Menopause Society, 2016, p 4). Namely:

   i. Psychological: Changes in emotional regulation, deterioration of memory, depression, anxiety.
   ii. Vasomotor: Changes in body temperature regulation
   iii. Locomotor: Bone and joint complaints.
   iv. Urogenital complaints: Dry vagina, urinary frequency, uncomfortable intercourse.

The detailed list of menopausal symptoms is long and covers many areas, however some researchers believe that changes in menstruation, vaginal discomfort and disruption of body temperature regulation are the only true symptoms of menopause. The rest can be

observed at any stage of women's lives and has more to do with socio-economical factors than physiological changes (Coney, 1993, p 86) (Dennerstein, 2000).

C. **Vasomotor symptoms – physiology**. Experts do not have a clear view about the physiological reasons for hot flushes. Some facts and hypotheses include:

i. Changes in gonadal hormone production result in increased sensitivity of hypothalamic neurons that control heat dissipation function. During a hot flush, core body temperature increases irrespective of peripheral body temperature. this affects temperature regulation and activates heat loss mechanisms (e.g. sweating, and dilation of blood vessels) (Dacks, 2010) (Roepke, 2010)

ii. Core body temperature range is reduced in menopausal women. This may be due to increased levels of the brain hormone norepinephrine (Freedman, 2013).

iii. Key hormones that affect hypothalamic thermoregulation function are sex steroids: estradiol and progesterone. However, the exact mechanism and additional contributing factors that result in hot flushes are not completely understood. (Roepke, 2010)

iv. Lower levels of estrogen together with increased levels of brain norepinephrine result in increased core body temperature that triggers heat loss mechanisms. However, plasma levels of norepinephrine are irrelevant. (Freedman, 2013)

v. Factors that are found to be contributing to duration of vasomotor symptoms are body mass index (BMI), smoking, anxiety and depressive symptoms. (Avis, 2015)

D. **Available treatments**

Hot flushes symptoms are very common. Increased life expectancy, population aging and increased cases of early menopause due to surgery, suggest that the number of women who look for relief from menopausal symptoms is growing. There is great market incentive to find an effective solution. Hence, numerous studies are conducted to ascertain effectiveness and risks of each method. Below is a brief summary of available solutions.

i. **Hormones replacement therapy (HRT)** has proved to be extremely effective in eliminating the symptoms of hot flushes. However, it comes with a long list of side effects and significant risks of breast cancer, heart disease, stroke and dementia. (Freedman, 2013) (Marieb, 2007, p. 1108). Effects of HRT are not fully studied and understood and therefore HRT is suitable in cases of severe symptoms and for a short time only (Aidelsburger, 2012). Additionally, HRT often results in returning menstrual bleeding, which makes it an undesirable option for many women. (Coney, 1993, pp. 211- 212)

ii. **Antidepressants that stimulate availability of serotonin.** It has been hypothesized that increased availability of serotonin will help thermo-regulating

hypothalamic function. According to summary review presented in Freedman' s research paper, several studies of various serotogenic agents showed moderate success of around 20%-30% effectiveness compared with placebo. There are however a long list of side effects. Few other studies done on this subject found no such benefits and questioned role of serotonin on hot flushes symptoms. (Freedman, 2013) Although Black cohosh (Cimicifuga racemosa), a Northern American herb used in treatment of menopausal symptoms, affects serotonin receptors in the brain. It is thought to be effective against hot flushes and has been approved by health authorities for use in Germany. (Geller, 2005, p 4).

iii. **Herbal extracts.** Various herbs are traditionally used for reduction of menopausal symptoms. These plants include black cohosh, red clover, soy, hops, dong quai, evening primrose, ginkgo, ginseng, kava, valerian, licorice root, motherwort, St. John's Wort, lemon balm, and wild yam. The research is extensive and inconclusive. Moderate effectiveness of herbal extracts is demonstrated in trials with black cohosh. Trials with other herbs are lacking in quality and extent of evidence or have negative conclusions on effectiveness against hot flushes. (Geller, 2005, p 3-9).

iv. **Acupuncture.** Review articles of effectiveness of acupuncture for hot flushes show inconclusive results due to poor quality of evidence (Aidelsburger, 2012). Dodin et al conclude that there is no significant difference between acupuncture, placebo and no treatment. (Dodin et al, 2013, p.2). A retrospective review of acupuncture treatment revealed that self-needling of Sp6 point weekly over as long as six years, significantly decreased hot flushes symptoms for the majority of patients selected in this review. (Filshie et al, 2005)

v. **Hypnotherapy.** Randomized controlled trial demonstrates that hypnotherapy significantly reduces frequency of menopausal hot flushes. (Elkins et al, 2013) (Maclaughlan et al, 2013)

vi. **Relaxation techniques.** On the face of incomplete and weak evidence a group of Thai researchers concluded that relaxation is no better than a placebo in eliminating hot flushes. (Saensak et al, 2013) A year later after finalization of this review, a randomized controlled trial was conducted by scientists from the University of California. They concluded that 15 min. slow respiration exercises reduced the number of hot flushes by 1.8 per day. In the same study participants who listened to calming music reduced their hot flashes by 3 per day. (Huang et al, 2015)

It is evident from this summary that pharmacological solutions are often undesirable due to side effects and increased health risk factors. At the same time behavioural treatment therapies (such as relaxation and hypnotherapy) show significant reduction of hot flushes. This suggests that, notwithstanding biochemical reasons, improvements in stress levels may be sufficiently effective for reduction of menopausal symptoms. Therefore,

arguably, kinesiology, being a stress reduction therapy, can help to reduce intensity and severity of hot flushes.

4. RESEARCH DESIGN

CAN KINESIOLOGY HELP TO REDUCE FREQUENCY AND SEVERITY OF VASOMOTOR SYNDROME (HOT FLUSHES) IN MENOPAUSAL WOMEN (INCLUDING PERI-MENOPAUSAL, MENOPAUSAL AND POST MENOPAUSAL)?

A. **Hypothesis.** A kinesiological procedure conducted according to the menopausal set up as per O'Neill Kinesiology College Hormonal Kinesiology manual can help to reduce severity and frequency of vasomotor symptoms in menopausal women (including peri-menopausal, menopausal and post-menopausal).

B. **Frequency and severity** are the two measurements adopted for this study.

i. Frequency of hot flushes means average daily number of hot flushes calculated from daily records taken over 10 days by the subjects.

ii. Severity of hot flushes refers to level of discomfort, intensity and average episode duration as part of Menopause Rating Scale score.

iii. Total MRS score. MRS score expressed in percentage of total maximum menopause score has been used as an additional measurement of menopausal symptoms.

C. **Research design**. This is a quantitative, non-controlled pilot study. 6 women, each at different stages of their menopausal transition, were selected to receive menopause kinesiology procedures. The subjects received 4 to 6 weekly treatments each. Number of sessions depended on subjects' stress level, energetic receptivity to the therapy and severity of their condition. The treatments were stopped when the whole protocol has been completed once. Frequency of hot flushes was monitored and recorded by the subjects themselves over 10 days period firstly before the treatment and, second, one week after the last session. Subjects completed MRS questionnaire before and after the treatment to determine severity of flushes and overall MRS score.

5. SUBJECTS SELECTION

A. **Sample size**. Desirable number of subjects is 6. This ensures that in case of attrition the minimum sample size of 4 subjects will be attained.

B. Inclusion criteria

i. Candidate is female, and

ii. Menopause is diagnosed by the treating doctor, and

iii. Candidate suffers from symptoms of hot flushes.

C. Exclusion criteria

i. Candidate currently receives another kinesiology treatment (related or not to the menopausal symptoms), or
ii. Candidate changes medication regime during the research, or
iii. Candidate does not attend sessions within the specified time frame

Refer to Informed consent form (Attachment 6), Personal details form (Attachment 7).

6. MEASUREMENT

A. **Frequency.** Before commencement of the treatment, subjects are instructed to observe and record how many times they experience hot flashes during ten consecutive days. This measurement is repeated one week after last treatment. (See Attachement 1 Hot Flushes Diary)

B. **Severity**. Severity of hot flushes are to be measured using Menopause Rating Scale questionnaire (MRS). (See Attachement 2 Menopause Rating Scale). MRS was designed as a tool to assess quality of life in menopausal women. Several studies conducted to assess effectiveness and reliability of this tool, concluded the following:

i. **Self-assessment tool**. The scale was designed to be easy to use for people with no medical background and for women themselves to assess their condition. Quality review concludes high reliability (consistency and re-test stability) of the questionnaire. (Heinemann et al, 2004)
ii. **Measurement over time**. MRS is designed to evaluate severity of symptoms over time. Methodological review shows that indeed, reliability of intra-individual comparison of results is high. (Heinemann et al, 2004)
iii. **Comparable data.** MRS is a tool used and tested in 4 continents and 9 countries. Overall comparisons between individuals of different cultural backgrounds is good, except caution is advised with comparison of data from Latin America and Indonesia due to cultural differences in interpreting the questions. (Heinemann et al, 2004) (Heinemann et al, 2003)

C. **Menopausal Rating Score**. Full menopausal rating scale score has been used to capture overall symptoms data before and after the treatment. Total score of 100% (44 points) represent maximum extent and severity of menopausal symptoms, including psychological, vasomotor, locomotor and urogenital symptoms.

7. KINESIOLOGICAL TREATMENT (PROTOCOL)

A. Selected candidates were subjected to the kinesiological procedure (protocol), designed to reduce stress in hormonal regulation for menopausal women (Nicholie

ONeill Kinesiology, 2017, Hormonal Procedures, *Hormonal Kinesiology*, pp 68 - 69). The following rules are applied to ensure quality and comparability of the data:

i. The same protocol is applied to all subjects (See Protocol in Attachment 3)
ii. Celestial circuit procedure is performed for all subjects in the first session only (Nicholie ONeill Kinesiology, 2016, Advanced Kinesiology Corrections) (See Attachments 4 and 5)
iii. The protocol is completed over a number of sessions. Due to individual differences, it was estimated that the process will take between 4 and 6 sessions for each subject.
iv. Kinesiological corrections, administered according to Advanced Kinesiology Correction by Nicolie ONeill Kinesiology Pty Ltd, vary depending on the individual requirements, and are selected using muscle monitoring technique. (Nicholie ONeill Kinesiology, 2016, *Advanced Kinesiology Corrections*)
v. Stress Indicator Points System (SIPS) procedure may be used at any stage of a session and is not subject to the standard protocol. (Nicholie ONeill Kinesiology, 2015, Powers of Stress, *Fundamental Kinesiology*, pp 6-8)

8. PROJECT TIME FRAME

Stage	Objective	Time frame
Design	a. To prepare relevant documents about the project design and get them approved b. To obtain knowledge and understanding about the menopausal vasomotor symptom c. Prepare and approve kinesiology treatment protocol	March – April 2017
Subjects selection	a. To recruit 6 women who fit the selection criteria for the series of kinesiology sessions	15 April – 2 May 2017
Data gathering	a. To collect pre-treatment data about vasomotor symptoms in selected candidates b. To conduct several sessions with each subject so that all steps of the protocol are completed for each individual c. To collect measurements of the effectiveness of kinesiology treatments after completing protocol for each subject	May – June 2017
Conclusion	a. To compile and analyse the data b. To prepare final research project report c. To present results of the findings to the study group	July – Sep 2017

9. DATA ANALYSIS

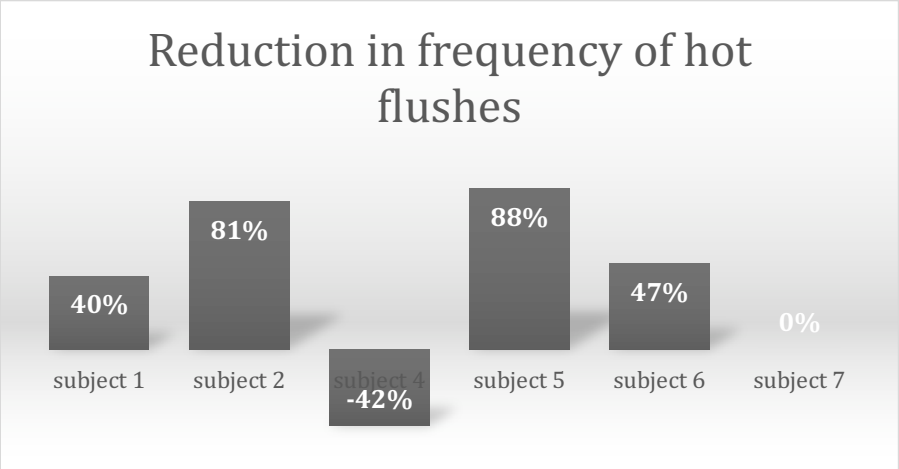
A. **Frequency**. The following indicators are calculated based on the frequency data collected via subjects' self-observation records before and after treatment. This data is used to calculate a Percentage of reduction in average daily number of hot flushes.

B. **Severity**. MRS forms to be completed by each participant before and after the treatment. The score between 0 and 4 quantifies the severity of hot flushes. This data is used to calculate a percentage of reduction in average severity score.

C. **Menopause Rating Scale (MRS) score**. Full menopausal rating scale score is used to capture overall symptoms data before and after the treatment. Total score of 100% (44 points) represents maximum extent and severity of the menopausal symptoms, including psychological, vasomotor, locomotor and urogenital symptoms. This data is used to calculate a percentage of reduction in average MRS score

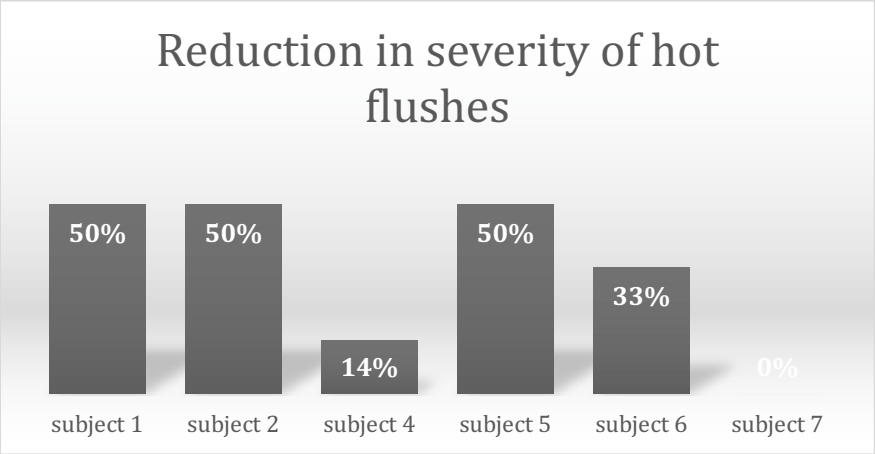
10. FINDINGS

A. **Frequency of hot flushes**.



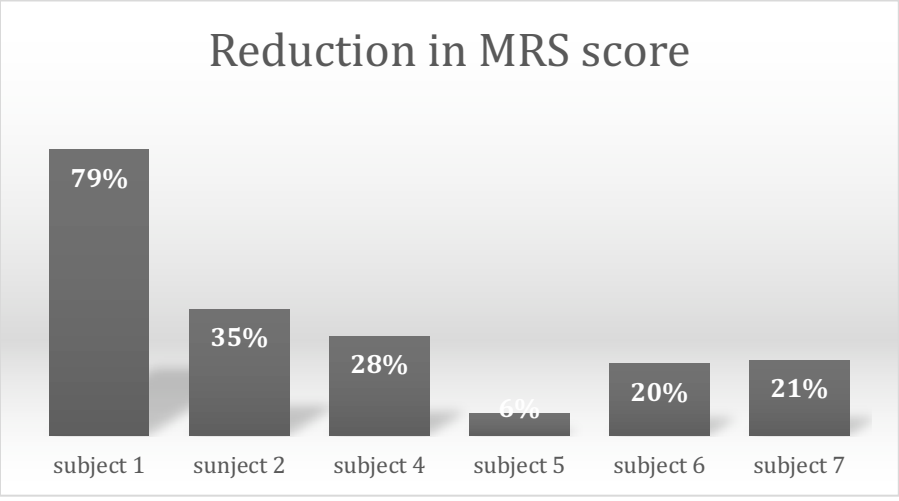
Average reduction of frequency in hot flushes demonstrated in this study is 36%. (Attachment 9) Due to the small sample size and diversity of individual responses, this data needs to be treated with caution. Best results are demonstrated by Subject 5 (88% of reduction, from 2.5 flushes a day average to one flush in a few days, 0.3 a day on average). Subject 2 experienced reduction of 81%, from 9 flushes a day on average to less than 2 (1.7). Subject 4 showed the worst result where frequency of hot flushes increased after completion of protocol in 6 sessions, from 2.4 a day to 3.4. It is important to note that frequency and severity of symptoms reduced significantly during the period of the treatment, but returned after kinesiology sessions stopped. This indicates that due to individual receptivity and contraindications, this woman possibly required a greater number of sessions and most likely other kinds of kinesiology procedures, which is outside the scope of this project. (Refer to Attachment 8 for raw data)

B. **Severity of hot flushes**.



As final results have been collected it became apparent that the severity scale of 0 – 4 is not an effective tool for this project. Many women described improvements in intensity of flushes which were not evident from the scoring. For most subjects score moved one or half a point down. Overall average improvement in the sample is 33%. (Refer to Attachments 8 and 9)

C. **Menopause Rating Scale score**.



This additional measure showed a bigger picture of effect of kinesiology on menopause symptoms. Some symptoms have direct or indirect correlation with hot flushes (such as stress level, sleep quality, exhaustion and heart discomfort). Overall

reduction of menopause symptoms is 31%. Best result is demonstrated by Subject 1 where initial score was 24 out of maximum score of 44, reduced to 5. Subject 5 showed worst result by only improving from 8 to 7.5 (6% improvement). (Refer to Attachments 8 and 9)

D. **Longevity of improvements**. This study did not set out to determine how long the improvements in menopause symptoms will last after kinesiology sessions are stopped. Neither, was there an intention to determine total number of sessions required to ensure lasting results. Hence, the above results are only a snapshot of women's symptoms before the treatment and one week after cessation of sessions. Further changes in menopause symptoms depend on a number of factors including further kinesiology sessions, attendance to accompanying health issues and environmental factors.

E. **Anecdotal evidence**. In addition to measurements explained above, informal follow ups before and after each session revealed the following feedback from the project participants:

i. **Physiological changes**. Hot flush severity and intensity patterns fluctuated a lot in an unpredictable fashion for all subjects during the treatment. Three women reported changed sleeping patterns. One woman noticed with delight that now, when hot flushes subside, she can feel cold.

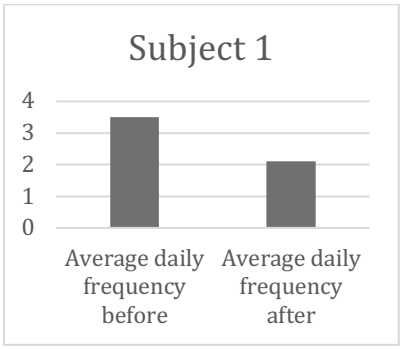
ii. **Emotional changes**. Almost all subjects reported becoming more aware of their emotions. One subject reported feeling depressed after the second session, this feeling however was soon replaced by a more peaceful and happy disposition. Several women said that after the kinesiology sessions they felt more at peace with their emotions and more accepting of them.

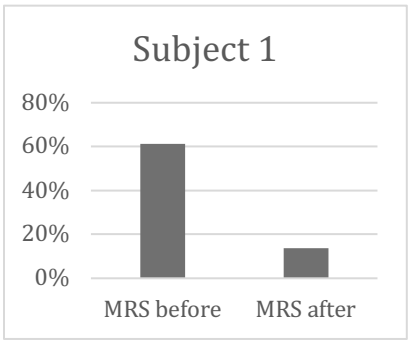
iii. **Improved self-esteem**. Three women noticed improvements in self-esteem, increased assertiveness and better personal boundaries.

iv. **Relaxed and happy**. All women expressed feeling happier. Although this meant different things for different people, specific descriptions included feeling more uplifted, energetic, calmer, relaxed, "less irritable"," less angry", and generally "feeling good". Two women said that they "felt lighter". And two other women used the expression of "becoming my old self".

11. INDIVIDUAL RESULTS

A. Subject 1





Frequency: The average daily frequency of hot flushes reduced by 40% from 3.5 to 2.1

Severity: The severity of hot flushes reduced from 2 – moderate to 1- mild. In the subject's own words "I have to think whether I am just warm or having a hot flush". Sweating when having a hot flush significantly decreased and became rare.

Menopausal Rating Scale Score: Total MRS score shows significant improvement from 55% (score 24 out of 44) to 11% (5 out of 44) after treatment. Specifically, such symptoms as sleep problems, irritability, anxiety and exhaustion reduced from "severe" to "mild" and "none". Urogenital problems also improved from "moderate" to "mild" and "none". The biggest improvement showed in joint and muscular discomfort that went from "very severe" (maximum score - 4) to "mild" (score - 1).

Stage of menopause transition: postmenopausal, 13 years after last period

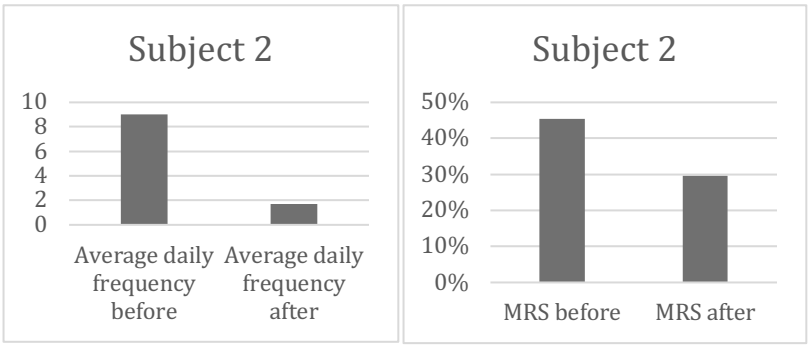
How long has the subject been suffering from hot flushes: 4 years

Contraindications: Thyroid removed due to cancer. Diagnosed with depression and taking antidepressants.

Number of sessions: 5

Indicators after completion of the protocol: less than half of main indicator muscles are in homeostasis, no frozen points.

B. Subject 2



Frequency: The average daily frequency of hot flushes reduced by 81% from 9 to 1.7

Severity: The severity of hot flushes reduced from 2- moderate to 1 -mild. Subject reported that at home she stopped having hot flushes, but sometimes she has a few at work where she is stressed and less in control of the environment temperature. Sweating when having a hot flush is significantly decreased and became rare.

Menopausal Rating Scale Score: Total MRS score shows improvement from 45% to 30% after treatment. The biggest improvement shows in sleep problems that went from "severe" (maximum score 3) to "mild" (score 1).

Stage of menopause transition: menopausal, 6-8 months after last period

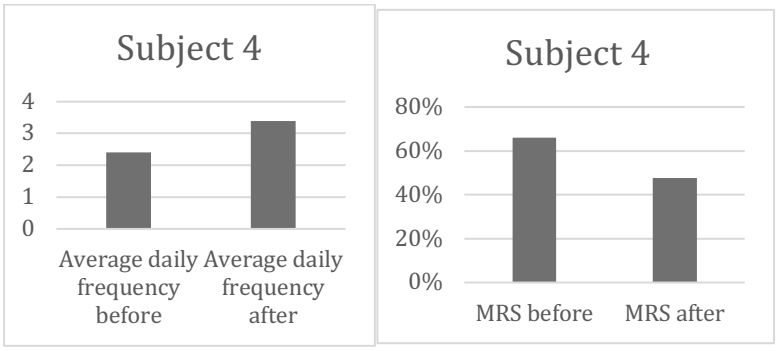
How long has the subject been suffering from hot flushes: 1 year

Contraindications: none noted

Number of sessions: 4

Indicators after completion of the protocol: All indicator muscles except one are in homeostasis, no frozen points

C. Subject 4[1]



Frequency: The average daily frequency of hot flushes increased after the treatment by 42% from 2.4 to 3.4.

Severity: The severity of hot flushes reduced insignificantly from score 3.5 (between severe and very severe) to score 3 - severe on 0 to 4 points scale.

Menopausal Rating Scale Score: Total MRS score showed improvement from 66% to 48% after treatment. The biggest improvement showed in sleep problems and heart discomfort.

Stage of menopause transition: postmenopausal

How long has the subject been suffering from hot flushes: several years

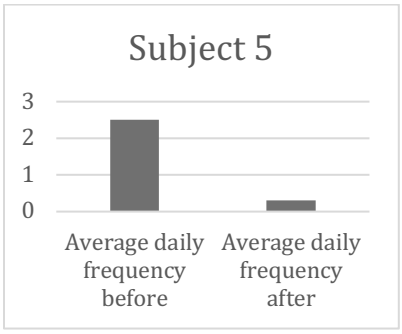
Contraindications: suspected adrenal fatigue, diagnosed with iron depletion

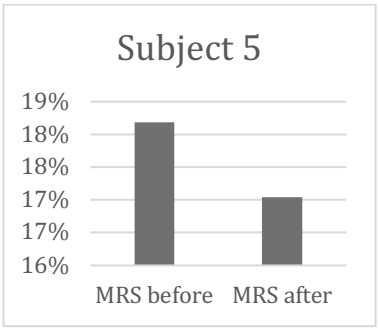
Number of sessions: 6

Indicators after completion of the protocol: None of indicator muscles are in homeostasis, no frozen points.

[1] Subject 3 was disqualified from this study due to start taking HRT medications after the first session.

D. Subject 5





Frequency: The average daily frequency of hot flushes reduced by 88% from 2.5 to 0.3 per day

Severity: The severity of hot flushes reduced from mild (score 1) to "very mild" (score 0.5). Night sweats became rare.

Menopausal Rating Scale Score: Overall the subject suffered mild menopausal symptoms (18% on MSC scale before the treatment) but this score only reduced to 17%. As per subject comments sleep improved, irritability lessened and bladder problems subsided. Although these improvements are not reflected in the MRS score due to limitations of scoring.

Stage of menopause transition: menopausal, 1 year after last period

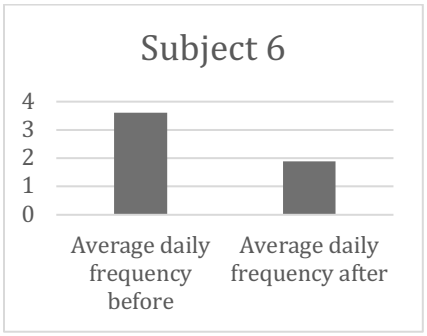
How long has the subject been suffering from hot flushes: 1 year

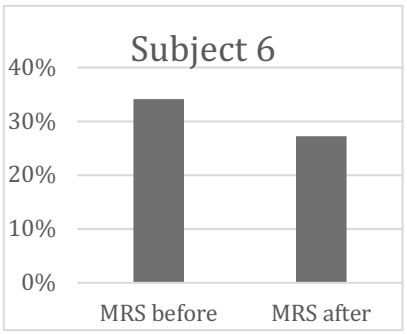
Contraindications: indications of prolong stress shows in TMJ pains, facial muscles tightness, strong shoulder tension and general muscular pains

Number of sessions: 4

Indicators after completion of the protocol: All indicator muscles except one are in homeostasis, no frozen points

E. Subject 6





Frequency: Average daily frequency of hot flushes reduced by 47% from 3.6 to 1.9 per day

Severity: The severity of hot flushes reduced from 3 -severe to 2 –moderate.

Menopausal Rating Scale Score: Overall MRS score reduced from 34% to 27%. Improvements are shown in vaginal discomfort and sleep quality.

Stage of menopause transition: postmenopausal

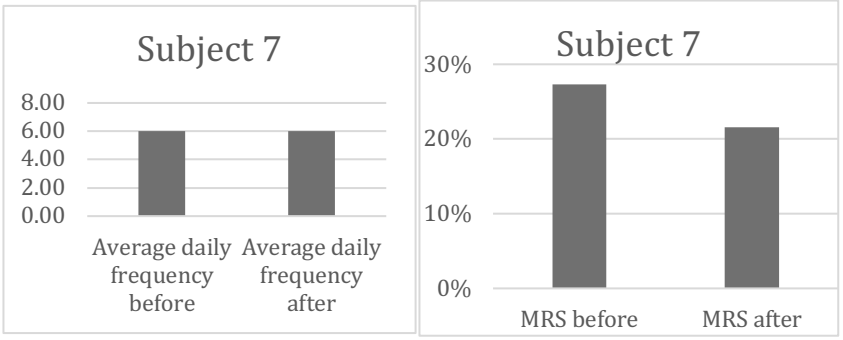
How long has the subject been suffering from hot flushes: 7-8 years

Contraindications: hysterectomy

Number of sessions: 5

Indicators after completion of the protocol: All indicator muscles are in homeostasis, no frozen points

F. Subject 7



Frequency: Average daily frequency of hot flushes has not changed.

Severity: The severity of hot flushes did not change.

Menopausal Rating Scale Score: Overall MRS score reduced from score 12 (27% of maximum score) to 9.5 (22%). Improvements are shown in heart discomfort (from moderate to none) and urogenital problems(from mild to none).

Stage of menopause transition: postmenopausal, 6 years since last period

How long has the subject been suffering from hot flushes: 6 years

Contraindications: none noted

Number of sessions: 5

Indicators after completion of the protocol: Three out of five indicator muscles are in homeostasis, no frozen points

12. CONCLUSION

Results of this study show that overall kinesiology can have an effect on reduction of frequency and severity of hot flushes in menopausal women. Although in the absence of a placebo group and other controls, it is hard to determine reliability of these results. Disparity in individual data should be addressed in future studies by greater sample size and better measurement tools. Two women out of 6 showed significant improvements (above 50%) in frequency of hot flushes. Two women demonstrated moderate improvements (from 40% to 50%). One showed zero change and one showed worse results.

It was difficult to collect data on severity using a 5 points scale (0 –none, 1 – mild, 2 – moderate, 3 – severe, and 4 – very severe). Women were reluctant to use scoring 3 and 4. If at least one flush was experienced during the period, scoring 0 cannot be used. Thus, the only options remained were score 1 and score 2. A 10 point rating scale would have been more effective and informative for measuring intensity of flushes.

Additionally, it should be noted that results of this study are compromised by the following limitations:

i. There is no segregation of duties between the researcher and the practitioner who administered that treatment
ii. Observations of frequency and intensity were done by subjects themselves, which suggest a degree of subjectivity
iii. Sample size was chosen for practical reasons only and does not allow the researcher to extrapolate results to a greater population
iv. Absence of a placebo control group makes it impossible to ascertain the degree of treatment effectiveness versus placebo effect.
v. Kinesiology research cannot be designed with a double blinded study effect
vi. The personality of the kinesiology practitioner might have an effect on the therapy process. Like in psychological counselling, chemistry between the client and the practitioner to some degree determines the success of the treatment. This means that results of this study are unlikely to be replicated in its entirety.

Due to these limitations, this work presents only very weak evidence of effectiveness of kinesiology on menopausal symptoms. However, results of this pilot study suggest that this is an area of research that is worth pursuing.