

What Does the Research Say?

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Introduction

- What research is there?
 - Method of action
 - Effectiveness

How might reflexology work?
(Method of action)

ARCUATE ARTERY OF KIDNEY

Sudmeier et al

- Title: Changes of renal blood flow during organ-associated foot reflexology measured by colour Doppler sonography.
- Published in: Forschende Komplementarmedizin
- When: 1999
- Country of origin: Germany

Method

- Randomised controlled trial
- Intervention – reflexology to the RHS kidney point
- Control – reflexology to eyes, ears and nose reflexes
- 32 healthy volunteers
- Colour Doppler scan of arcuate artery

Results

- There is a significant decrease in the resistance index during the treatment.
- Evidence for the hypothesis that foot Reflexology exerts a short term effect influence on kidney blood flow.

Resistance

- Measure of difficulty of passing something through something.
- Higher resistance = more difficulty to pass
- Lower resistance = easier passage

Similar results in Mesenteric artery

- Forsch. Komplementarmed Klass Naturheilkd 2001 Apr;8(2):86-9.
- [Influence of reflex zone therapy of the feet on intestinal blood flow measured by colour Doppler sonography].
- [Article in German]
- Mur E¹, Schmidseder J, Egger I, Bodner G, Eibl G, Hartig F, Pfeiffer KP, Herold M.

CARDIAC RESEARCH

Jones et al

- Reflexology has an acute (immediate) haemodynamic effect in healthy volunteers: a double-blind randomised controlled trial.
- Complement Ther Clin Prac. 12 Nov;18(4)
- Jones J, Thomson P, Lauder W, Howie K, Leslie SJ.

Method

- Randomised controlled cross-over trial
- Intervention- reflexology to the ball of the foot and above
- Control- reflexology to the bottom half of the foot and heel
- 16 Healthy volunteers
- Task force monitor – various cardiac parameters

Results

- Reflexology significantly reduced cardiac index
- Other test results were not changed after reflexology

FMRI STUDIES

fMRI Study (1)

T. Nakamaru, N. Miura, A. Fukushima, R. Kawashima,

Somatotopical relationships between cortical activity, reflex areas in reflexology: A functional magnetic resonance imaging study, *Neuroscience Letters* (2008)

Volume 448, Issue 1, 19 December 2008, Pages 6-9

First study

- 25 healthy volunteers
- Randomised to group
- Intervention- stimulation of reflex points in 3 different anatomically distinct areas.
- Shoulder, eye, intestines

Results

- If there is stimulation of the left foot eye reflexology point, the area of the brain that is responsive to the tactile (touch) stimulation of the eye or neighbouring area responds in the left brain.
- Same with small intestines and trunk
- Shoulder gave a tendency to response in right brain upper limb point

- In this study the LHS stimulation results in LHS brain activation from the results obtained from the eye and small intestine.
- This finding agrees with reflexology point of view that LHS stimulation results in LHS activation.

fMRI study (2)

- Activity in the primary somatosensory cortex induced by reflexological stimulation is unaffected by pseudo-information: a functional magnetic resonance imaging study
- Naoki Miura, Yuko Akitsuki, Atsushi Sekiguchi and Ryuta Kawashima
- Open access
- Bio-med central
- <http://www.biomedcentral.com/1472-6882/13/114>

Method

- Randomised
- Grp 1 Reflexology to base of
 2nd toe, informed to be eye correct.
 3rd toe informed to be shoulder pseudo
- Grp 2 reversed
- 32 healthy volunteers

Results

- Reflexology induces changes in resting state neural activity.
- Stimulation of the eye reflex points caused activation in the part of the brain where you would expect to see a reaction caused by touching the face.
- Simply holding of the foot caused activation in the contralateral or opposite side of the brain.

- There was no significant effect of the pseudo information, meaning that the reaction of the brain did not come from what it heard, but from the way it was stimulated through the reflex point.
- Stimulation caused increased blood flow in the area of the brain representing the face.

What does Reflexology do?
Effectiveness

PMS

Oleson and Flocco

- Randomized Controlled Study of Premenstrual Symptoms Treated With Ear, Hand, and Foot Reflexology
- OBSTETRICS AND GYNECOLOGY -NEW YORK
- Oleson, T. Flocco, W.
- 1993 VOL 82; NUMBER 6 , page(s) 906

Method

- Randomised
- Intervention - Ear, hand and foot Reflexology
- Control- Overly light or rough stimulation of areas of the ear, hand and foot deemed to be inappropriate for PMS
- 76
- 38 PMS symptoms, on a 4 point scale
 - 19 somatic,
 - 19 psychological

Results

- ‘significantly greater reduction in premenstrual symptoms than placebo Reflexology ...the effect of which also persisted for two months after treatment for both somatic and psychological symptoms.’

CANCER AND QOL

Sharp et al

- A randomised, controlled trial of the psychological effects of reflexology in early breast cancer
- European Journal of Cancer
- Donald M. Sharp, Mary B. Walker, Amulya Chaturvedi, Sunil Upadhyay, Abdel Hamid, Andrew A. Walker, Julie S. Bateman, Fiona Braid, Karen Ellwood, Claire Hebblewhite, Teresa Hope, Michael Lines, Leslie G. Walker
- 2010 VOL 46; NUMBER 2, page(s) 312-322

Method

- Randomised controlled 3 arms
- Intervention 1= reflexology plus self initiated support (SIS)
- Intervention 2= scalp massage plus self initiated support (SIS) – comparator for physical and social contact.
- Control= only self initiated support (SIS) – standard care
- 183 women with newly diagnosed, histologically proven breast cancer were randomised approximately 6 weeks after breast surgery to one of three groups
- The Trial Outcome Index (TOI) is a sum of the scores of the physical and functional parts of the general scale and the breast cancer concerns scale.

Results

- At 18 weeks post surgery, both the scalp massage and reflexology had better quality of life (QoL) than those receiving support.
- At 24 weeks post surgery, the reflexology group had significantly better QoL

Clinically worthwhile

- There is a calculation to work out whether a treatment is 'clinically worthwhile' (paid for by healthcare providers)
- In this study only reflexology met this criteria.
- The difference only shows at 24 weeks which suggests the effects of reflexology may take longer to show.

Lymphoedema and Reflexology Lymph Drainage

- Use of reflexology in managing secondary lymphoedema for patients affected by treatments for breast cancer: A feasibility study
- Judith Whatley , Rachael Street , Sally Kay , Philip E. Harris
- Complementary Therapies in Clinical Practice 23 (2016)

Method

- Uncontrolled trial
- 26 women with post lymph node biopsy for breast cancer lymphoedema.
- All received a specialist reflexology technique called RLD.
- 4x 40 minutes sessions
- Comparisons of the volume in the affected arm to that of the unaffected arm were made.
- MYCAW

Results

- The volume of the swollen arm was significantly reduced following four (RLD) reflexology treatments and the effect size was large.
- There was a reduction in patient-identified concerns.

ANXIETY

Anxiety

- Evaluation of anxiety, salivary cortisol and melatonin secretion following reflexology treatment: A pilot study in healthy individuals
- A.J. Mc Vicar, C.R. Greenwood, F. Fewell, V. D'Arcy, S. Chandrasekharan, L.C. Alldridge,
- Complementary Therapies in Clinical Practice (2007)

Method

- Randomised controlled cross over trial
- Intervention - 45 mins reflexology
- Control – no treatment
- Self reported anxiety (Spielberger STAI), cardiovascular factors (BP and pulse rate)
- Salivary cortisol and melatonin concentrations
- 30 healthy volunteers

Results - anxiety

- Reflexology had a powerful anxiety-reduction effect 'state'
- but no significant effect on underlying anxiety 'trait'.
- Cardiovascular factors decreased.
- Baseline salivary cortisol and melatonin were not significantly correlated with anxiety scores and DID NOT change significantly following reflexology. (But healthy individuals)

- Reflexology reduced 'state' anxiety and cardiovascular activity, consistent with stress-reduction.
- Considering the connection between stress/anxiety and well being, the effects of reflexology may have beneficial outcomes for patients. (and many others too)

ACUTE PAIN

Reflexology and pain

- The effects of reflexology on pain threshold and tolerance in an ice-pain experiment in healthy human subjects.
- C.A. Samuel & I.S. Ebenezer
- Complement Ther Clin Pract. 2013
May;19(2):57-62

Method

- Randomised sham controlled cross over
- Intervention- 45 mins reflexology
- Control – 45 mins sham TENS
- Ice immersion test
- Time to pain threshold /Time to pain tolerance /Heart rate.

Results - pain

- Reflexology increases both pain threshold and tolerance in volunteers exposed to acute pain.
- Acute not chronic pain.

Application of research

- **The Effect of Foot Reflexology on Pain in Patients with Metastatic Cancer**
- Nancy Stephenson, Jo Ann Dalton, and John Carlson
- *Applied Nursing Research*, Vol. 16, No. 4 (November), 2003: pp 284-286

Method

- Randomised
- Intervention – reflexology
- Control- standard care (offered reflexology after the data collection)
- Visual Analogue Scale for Anxiety
- the Short- Form McGill Pain Questionnaire
- 23 breast or lung cancer patients (11 /12)

Results 2 - pain

- 11 breast cancer patients showed a significant decrease in pain with reflexology than usual care.
- Lung cancer patients reported little pain so no change.
- There was a significant decrease in anxiety in both groups.

Summary

- There IS some research about Reflexology, but there is room for much more.
- There are less 'how it works' compared to 'does it work?' studies.
- How it works = important to reflexologists
- Does it work = important to reflexology

SO

- Much of the research supports what we believe is happening with reflexology!



Of course

More research is
always needed.

Thank you
for listening