



## Published Research into Reflexology

An abridged collection of published research from Denmark, Germany, Britain, China, Switzerland and the USA

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## Published Research

### **Impact of Reflexology on the Workplace**

#### **Danish Study 1**

A reflexologist was hired by a Scandinavian airline's cargo department to improve staff morale and reduce sick leave for its 60 employees, resulting in monthly savings of US\$3,300. This is what their employees said:

*"Our work is done through computers and people spending many hours in a chair doing their work, resulting in aching shoulders and back. Since we employed our reflexologist we have experienced a substantial decrease of people being ill and away from work. It has had a physical and psychological effect. There is a much better atmosphere in the department, because the employees feel there is something being done about their problems. Before staff used to stay at home, now we see them go to work anyway because they know they can get a treatment and feel better."*

*(Research has been published and undertaken by the FDZ - the Danish Reflexology Association)*

#### **Danish Study 2**

The Odense Postal District employed a reflexologist for 3 years to deal with employee stress. Two hundred and thirty five employees participated resulting in a 25% fall in sick leave, saving £110,000 and 170 employees reported a good impact on their health.

*(Research has been published and undertaken by the FDZ - the Danish Reflexology Association)*

#### **Danish Study 3**

A reflexologist was employed for 6 months. 52 employees (all women) were treated for various ailments.

Sick leave fell by 65.9%

97.5% had a positive effect on their primary problem

77.5% had a positive effect on their secondary problem

They had a 27.5% reduction in medication.

*(Research has been published and undertaken by the FDZ - the Danish Reflexology Association)*



#### **Danish Study 4**

143 people employed in the council of Aarhus had regular reflexology with the following results:

79% had complete or partial recovery for their primary problem

57% had a positive effect on their secondary problem

30% were more satisfied at work

92% would like to continue with treatments.

*(Research has been published and undertaken by the FDZ - the Danish Reflexology Association)*

#### **Danish Study 5**

Telecom Taastrup hired a reflexologist 3 days a week for its 800 employees. 156 employees participated in the survey who received 1056 treatments in a year. 60% of problems were for back pain/muscle tension, headache/migraine, stomach/intestinal problems. The others had problems relating to movement.

The survey results were as follows:

40% had their sick days reduced

56% indicated that reflexology had helped

29% indicated that reflexology had partially helped

15% did not help

It was concluded that there was a direct economic benefit (due to lower sick days) as well as increased well being and productivity of the employees.

*(Research has been published and undertaken by the FDZ - the Danish Reflexology Association)*

#### **Worcester Hospital Study**

28 members of staff at Worcester Hospitals received 40 mins of reflexology each week for 6 weeks. Their response to the reflexology was measured in terms of: pain, mobility, lethargy, psychological stress. The key results were:

74% had a significant reduction in pain

62.5% had a significant improvement in mobility

55% had a significant improvement in psychological stress

53% had a significant reduction in lethargy

The study concluded that it was a cost effective treatment for companies concerned about absenteeism and sick leave.

*(Research has been published and undertaken by the FDZ - the Danish Reflexology Association)*



## **Headaches and Migraines**

### **The National Board of Health Study, Denmark**

This widescale study was commissioned in Denmark since there were 729,000 lost workdays in 1994 from migraines.

The results showed that 19% of headache sufferers stopped taking medication following reflexology work. They found that reflexology treatments had a beneficial effect on patients suffering from migraine and tension headaches.

The study was conducted at the Department of Social Pharmacy, The Royal Danish School of Pharmacy in co-operation with 5 reflexology associations. 220 patients participated. The majority had moderate to severe symptoms: 90% had taken prescribed medication for their headaches one month prior to the study (81% was acetylsalicylic acid and paracetamol taken twice a week, with 72% of stronger medication taken fortnightly); with 36% experiencing side effects from the medicines. 34% had taken medication for other non-headache ailments.

3 months after completing the reflexology treatments, the results were:

16% had been cured

65% had reduced symptoms

19% reported that they had been able to stop all medication taken before the study.

Those participants who continued with reflexology sessions after the six-month period reported the greatest probability for cure. Those who had headaches for the shortest period prior to the study reported the greatest relief after the study.

One thing the researchers noticed that may have affected the study was that once receiving reflexology, many of the participants seemed to make lifestyle changes that reflected how they looked at their headaches. Prior to receiving reflexology, patients looked at their headaches as something separate from themselves over which they had no control. After working with a reflexologist, they seemed to understand the mind-body connection to their headache and how it could be controlled through the integration of the mind and body. It appeared that the reflexology practitioner became a catalyst for initiating the learning process and inspiring personal development in the patient.

*(Brendstrup, Eva and Launs, Laila, "Headache and Reflexological Treatment," The Council Concerning Alternative Treatment, The National Board of Health, Denmark, 1997)*



### **German Study**

In a blind random trial, (Lafuente) examined 32 patients between the ages of 15 and 57 (25 women and 7 men). One group had reflexology treatments twice a week for 2-3 months. The other received Flunarizine (a selective calcium entry blocker with calmodulin binding properties and histamine blocking activity that has been effective in preventing migraines) and massage of a non-specific area twice a week for 12 sessions. Patients were evaluated at the end of the study and again 3 months after the study.

Reflexology was found to be as effective in the treatment of headaches as medication (flunarizine), without its side-effects. It was concluded that the reflexology treatment may be classified as an alternative non-pharmacological therapeutic treatment that would be particularly appropriate to those patients that were unable to follow pharmacological treatment.

*(Lafuente A et al (1990). Effekt der Reflex zonenbehandlung am FuB bezüglich der prophylaktischen Behandlung mit Flunarizin bei an Cephalaea-Kopfschmerzen leidenden Patienten.Erfahrungsheilkunde. 39, 713-715.)*

### **Chinese Study**

A Chinese study of 26 patients, 9 men and 17 women, from 19 to 43 years of age showed that after one session of foot reflexology, 13 of the participants considered themselves symptom free, and 1 reported symptoms relieved. After two sessions, 6 considered themselves to be cured and 1 reported to be symptom free. After three sessions, 2 participants said they were cured and 3 stated their symptoms were unchanged. The conclusion of this study was that reflexology is a safe, economic therapy.

### **Gynaecological Problems**

- Pre-menstrual syndrome
- Various gynaecological disorders
- Menopausal Symptoms
- Amenorrhea
- Male Impotence
- Dymenstruation/(painful periods)
- Hypermenorrhoea/(excessive uterine bleeding)



### **Pre-menstrual syndrome**

60 women participated over 16 consecutive menstruation periods.

Women were assessed for periods 1-6.

Treatments provided for periods 7-10 receiving 10 each.

Monitored for the following periods 11-16.

During the 16 periods a diary was kept, monitoring sick days, symptoms and use of painkillers.

All women in the study were between 18-40 with PMS.

Results showed that 3-4 reflexology sessions per menstruation period over 4 periods can reduce the number of PMS days and the PMS symptoms. Medication levels required fell substantially.

*(FDZ - Danish reflexology association 2000)*

### **Gynaecological diseases**

50 patients aged between 20-51, diagnosed with gynaecological diseases including dysmenorrhea, hysteromyoma, pelvic inflammation, cyst and mass, endometriosis, menstrual disorder, infertility and chocolate cyst, were treated with foot reflexology either daily or every other day with a minimum of 10 sessions, up to 2 years.

42 (84%) of patients symptoms completely disappeared, there was normal menstruation with no dysmenorrhea.

8 (16%) of patients had symptoms that almost disappeared.

*(By Hui Song, Senior Doctor, Nanjing Obstetrical and Gynecological Hospital)*

### **Menopausal Symptoms**

82 women diagnosed with menopausal symptoms were randomly divided into two groups. 42 women received reflexology and 40 received reflexology with auricular point magnet adhesion. 30min sessions were provided daily for 60 days.

For the reflexology group: 19 (41%) had fully recovered, 20 (48%) had significantly recovered, 4 (9%) had effective results and 1 (2%) found it ineffective.



For the reflexology with auricular point magnet adhesion: 9 (23%) fully recovered, 16 (40%) significantly recovered, 9 (23%) had effective results and 6 (14%) had ineffective results.

*(Sun Jianhua, "Observation on the Therapeutic Effect of 82 Cases of Climacterium Syndrome (menopause) Treated with Reflexotherapy," 1998 China Reflexology Symposium Report, China Reflexology Association, Beijing , p. 60-61)*

### **Amenorrhea (no menstruation)**

95 cases of amenorrhea were divided into 2 groups, a reflexology group of 50 and a control group of 45 using traditional Chinese medicine tablets.

The effective rate of the reflexology group was 96% compared to the control group rate of 33%.

*(Xiu-hua, Xu, "Analysis of 50 Cases of Amenorrhea Treated by Foot Reflex Therapy," (19)96 Beijing International Reflexology Conference (Report), China Preventive Medical Association and the Chinese Society of Reflexology, Beijing , 1996, p.36 )*

### **Male Impotence**

37 patients with sexual dysfunction (15: impotence, 9: premature ejaculation, 6: emission, and 7: ejaculation deficiencies) were randomly assigned to two groups: 19 individuals were treated with reflexology and 18 with traditional Chinese medicine (TCM)

No statistical difference was found between the two groups on age, occupation, education, degree of disease, spirit status, affection between the couple, sexual desire, and sexual intercourse for marital cases. In addition to reflexology, massage was applied to specific acupuncture points of the body in that group.

For the reflexology group: 87.5% effective for impotence and 100% all others.  
For the TCM group: 85.7% effective for impotence and 100% all others.

*(Jianhua, Sun, "The Comparison of Curative Effects Between Foot Reflexology and Chinese Traditional Medicine in Treating 37 Cases with Male's Sexual Dysfunction," 1996 China Reflexology Symposium Report , China Reflexology Association, Beijing , p. 75)*

### **Dysmenstruation (painful periods)**

10 patients diagnosed with dysmenstruation (painful periods) with an average age 21, received reflexology. 3 patients had already tried western or chinese therapies without success. The results showed that reflexology provided pain relief very quickly.





*(By Wu Zhixing, Department of Foot Reflexology, Hangzhou Traditional Chinese Medicine Hospital)*

### **Hypermenorrhea (excessive uterine bleeding)**

28 patients with hypermenorrhea (excessive uterine bleeding occurring at regular intervals) were treated with reflexology. The results were:

82% had significant benefits with relief from symptoms, with no reoccurrence during the observation.

18% had some benefits, symptoms were relieved but as soon as the reflexology ceased, symptoms returned

*(By Wu Zhixing, Hangzhou Traditional Medical Hospital, Zhejiang, China)*

### **Digestive Disorders**

- Constipation
- Dyspepsia
- Intestinal function
- Constipation

### **Danish Study**

42 women aged 20-60 participated in a study to see the impact of reflexology on chronic constipation. The average number of days between bowel movements were reduced from 4.4 days to 1.8 days after reflexology treatments were provided.

*(FDZ-Danish reflexology association 1992)*

### **Chinese Study**

40 residents of an old people's home had reflexology to see the impact on the digestive process. 20 were diagnosed as constipated and 20 not. 5 days before the reflexology treatment they were all given a carbon tablet and bowel transit time was recorded. All received reflexology treatments for 10 days. The carbon tablet re-administered elimination times were examined. The time between taking the carbon tablet and the last black stool was:

Constipation group:(before):average 77hrs;(after) 51.5hrs (33% change)

Non-constipation group: (before):average 57.5hrs; (after) 46hrs (20% change)

*(Yuru, Yang; Lingyun, Chao; Guangling, Meng; Scuwe, Cao; Jia-Mo, Hao and Suhui, Zhang, "Exploring the Application of Foot Reflexology to the Preventions and Treatment of Functional Constipation," 1994 China Reflexology Symposium Report , China Reflexology Association, Beijing , p. 62)*



## **Dyspepsia**

230 people had been diagnosed with Dyspepsia, with the following symptoms: upper abdominal discomfort, bloating, satiety, belching, nausea, acid reflux, heartburn. The following had been ruled out by barium studies, gastroscopy and ultrasonography: peptic ulcer, gastric carcinoma, gastritis reflux esophagitis, hiatal hernia, hepatobiliary disease and pancreatic disease.

132 individuals were given reflexology for 30 mins once or twice a day for a fortnight. 98 received drug therapy for two weeks.

The foot reflexology group was found to be: very effective (98 or 74.2%), effective (30 or 22.7%), failure (4 or 0.3%).

The drug therapy group was found to be very effective (58 or 60.4%), effective (14 or 14.5%), failure (24 or 25%).

*(Zhi-wen, Gong and Wei-song, Xin, "Foot Reflexology in the Treatment of Functional Dyspepsia: A Clinical Analysis of 132 Cases," (19)96 Beijing International Reflexology Conference (Report), China Preventive Medical Association and the Chinese Society of Reflexology, Beijing , 1996, p. 37)*

## **Intestinal function**

32 healthy adults (19 women and 13 men) were randomly divided into a reflexology and a placebo group to assess the impact on intestinal blood flow. Subjects of the treatment group received foot massage on the zones assigned to the intestines and those of the placebo group received massage on zones unrelated to the intestines.

The following items were recorded before, during and after reflexology: blood flow velocity (speed), the peak systolic (highest blood pressure), lowest diastolic (lowest blood pressure) in the superior mesenteric artery (in the intestines) as well as the resistive index as a parameter of vascular resistance were calculated.

### **Results:**

In the reflexology group: During the treatment there was a significant reduction in the resistive index ( $p = 0.021$ ), suggesting an increase in the blood flow in the superior mesenteric artery and the subordinate vascular system.

In the placebo group: There were no significant changes in the resistive index in the subjects of the placebo group.



Conclusion: The reduction in the resistive index observed in the reflexology group supports the theory that reflexology improves blood flow in the organs considered to be associated with the specific foot zones, at least during the therapy process.

*(J, Egger I, Bodner G, Eibl G, Hartig F, Pfeiffer KP, Herold M., "Influence of reflex zone therapy of the feet on intestinal blood flow measured by color Doppler sonography," [Article in German] Forsch Komplementarmed Klass Naturheilkd. 2001 Apr;8(2):86-9. (Universitätsklinik für Innere Medizin, Innsbruck, Austria) (Copyright 2001 S. Karger GmbH, Freiburg (Mur E, Schmidseider) PMID: 11340315)*

## **Diabetes**

### **Chinese Study 1**

32 cases of type II diabetes mellitus were randomly divided into 2 groups. One group was treated with conventional Western Medicine hypoglycemic agent and reflexology, the other group with the same medicine only (WM).

After daily treatments over 30 days, fasting blood glucose levels, platelet aggregation, length and wet weight of the thrombus, senility symptom scores and serum lipid peroxide (LPO) were greatly reduced in the reflexology group (P,0.05-0.01), while no significant change was observed in the WM group.

The study suggested that reflexology was an effective treatment for type II diabetes mellitus.

*(Wang, X. M., "Type II diabetes mellitus with foot reflexotherapy," Chuang Koh Chuang Hsi I Chief Ho Teas Chi, Beijing, Vol. 13, Sept. 1993, pp 536-538)*

### **Chinese Study 2**

22 cases with non-insulin dependent diabetes were split into 2 groups. The patients of both groups had taken hypoglycemic agents for a long time. Reflexology was provided daily for 30 days.

Results:

The indexes of the scores of senility, thrombocyte aggregation rates (TAR), the length and wet weights of thrombosis in vitro, and the serum oxidative lipids were measured to judge curative effect.



The reflexology group showed a "marked improvement" with a 66.7% "effective rate" in the measured indices. It is termed a "satisfactory curative effect." The non-reflexology showed no significant change with a 20% "effective rate".  
(Zhi-qin, Duan et. al., "Foot Reflexology Therapy Applied On Patients with NIDDM (non-insulin dependent diabetic mellitus)," 1993 China Reflexology Symposium, p.24)

### **Chinese Study 3**

The blood flow rate was tested by colour Doppler ultrasonic examination before and after foot reflexology for a treatment group of 20 individuals with Type II diabetes and a control group of 15 individuals with no Type II diabetes and no diseases affecting arterial blood flow in the lower limbs.

Results:

There were significant differences in the blood flow rate to the feet of Type II diabetes individuals before and after application of technique. The blood flow rate of diabetic individuals was lower than those in the control group.

(Ying Ma, "Clinical Observation on Influence upon Arterial Blood Flow in the Lower Limbs of 20 Cases with Type II Diabetes Mellitus Treated by Foot Reflexology" 1998 China Reflexology Symposium Report, China Reflexology Association, Beijing, pp97-99)

### **Pain, nausea and relaxation**

- Quality of life
- Anxiety and pain

### **Pain, nausea and relaxation**

Results: Reflexology modifies the distressing symptoms of pain and nausea in patients hospitalised with cancer. 87 patients participated receiving a 10-minute reflexology massage.

The results showed treatments producing a significant and immediate effect on the patients' perceptions of pain, nausea and relaxation when measured with a visual analog scale.



The results were so positive that the researchers recommend that further research using larger numbers of patients in controlled clinical trials into the effectiveness of reflexology in alleviating pain, nausea and anxiety in the management of these symptoms by the family at home is warranted.

*(Foot Massage: A nursing intervention to modify the distressing symptoms of pain and nausea in patients hospitalized with cancer," Grealish, L. Lomasney, A., Whiteman, B., Cancer Nurse 2000, June;23(3):237-43 (On-line review: "Reflexology Used for Cancer Patients," Internet Health Library, October 11, 2000)*

### **Cancer (Quality of life)**

Results: 100% of the reflexology group benefited from an improvement in quality of life: appearance, appetite, breathing, communication (doctors), communication (family), communication (nurses), concentration, constipation, diarrhoea, fear of future, isolation, micturition, mobility, mood, nausea, pain, sleep and tiredness.

An improvement in all components of the quality of life scale was reported in the reflexology group compared to 67.5 in the placebo group.

This study suggests that the provision of reflexology for palliative patients within the general setting could be beneficial. Not only did the patients in this study enjoy the intervention, they were also 'relaxed,' comforted' and achieved relief from some of their symptoms.

*(Hodgson, H. "Does reflexology impact on cancer patients' quality of life?," Nursing Standard, 14, 31, p. 33-38)*

### **Cancer (Anxiety and pain)**

Results: Foot reflexology alleviated anxiety and pain for 23 patients with breast and lung cancer. Researchers noted a significant decrease in anxiety for patients diagnosed with breast or lung cancer and a significant decrease in pain for patients with breast cancer.

"This has important implications for nursing practice as both professionals and lay people can be taught reflexology. Reflexology is a simple technique for human touch which can be performed anywhere, requires no special equipment, is non-invasive and does not interfere with patients' privacy."

*(Stephenson, N. L., Weinrich, S. P. and Tavakoli, A. S., "The effects of foot reflexology on anxiety and pain in patients with breast and lung cancer," OncolNursForum 2000, Jan.-Feb.;27(1):67-72)*



## **Chest Disorders**

- Chest Pain
- Pneumonia in infants

### **Chest Pain**

Margaret Barker, a qualified reflexologist, conducted a small-scale study at the Cardiac Unit of the Queen Elizabeth Hospital, Birmingham, UK, into the effects of reflexology on a group of 4 patients suffering from chest pain.

The patients were referred from a consultant; all had experienced pain for periods ranging between 18 months to 13 years and cardiac catheterizations revealed that none of the patients had any identifiable disease of the cardiac arteries. Furthermore, none of the patients had had reflexology treatment prior to the study, nor were they encouraged to believe that the treatment would 'cure' their condition.

Weekly reflexology treatments were given over a period of 8 weeks and asked to keep a diary to record their chest pain before and after treatments specifying the number of pain episodes; the intensity of the pain; and, the duration of the pain.

Results:

All of the patients recorded positive results; 75% experienced a complete relief from their original symptoms after 9 months and the remaining patient reported a reduction in pain.

### **Pneumonia (Infantile)**

Results: Infants who receive both medication and reflexology recovered from infantile pneumonia more quickly than on medication alone.

*(Liang-cai, Pei, "Observation of 58 Infantile Pneumonia by Combined Method of Medication with Foot Massage," A Clinical Analysis of 132 Cases," (19)96 Beijing International Reflexology Conference (Report), China Preventive Medical Association and the Chinese Society of Reflexology, Beijing, 1996, p. 34)*

## **Circulatory System**

- Cardiovascular system
- Coronary heart disease



### **Cardiovascular system**

24 people participated in a study examining the impact of reflexology on baroreceptor reflex sensitivity, blood pressure and sinus arrhythmia. 10 people had reflexology, 10 had foot massage with 4 in the control group.

#### **Results:**

The reflexology and foot massage groups showed significantly greater reductions in baroreceptor reflex sensitivity compared to the control group. This study found no significant difference in blood pressure after intervention. The frequency of sinus arrhythmia after reflexology and foot massage increased by 43.9% and 34.1% respectively.

*(Frankel, B. S. M., "The effect of reflexology on baroreceptor reflex sensitivity, blood pressure and sinus arrhythmia," Complementary Therapies in Medicine ( England ), 1997, 5, pp. 80-84)*

### **Coronary heart disease**

58 cases of coronary heart disease were treated with reflexology and 67 cases with pharmacotherapy. 4 indexes were examined before and after treatment for both groups: clinical symptoms, blood pressure/heart rate, blood fat and ECG.

After 30-40 days of treatment, average results were:

1. Clinical Symptoms: Chest distress, angina pectoris symptoms disappeared in reflexology group, unchanged in the pharmacotherapy group.
2. Blood pressure/heart rate: Reflexology group (before): +185/80 / 86-74 ;(after):+160/75 /72-70 Pharmacotherapy group (before): +180/80 / 78-72; (after):+160/80 /76-70
3. Blood fat: Reflexology group (before): high in some; (after): slightly changed, Pharmacotherapy group (before): high in some and (after): slightly changed
4. ECG: Reflexology group (before): slight change in T-wave; (after): remarkably improved ECG, Pharmacotherapy group (before): change in ST-T wave and (after): certain improvement.



Zhongzheng, Li and Yuchun, Liu, "Clinical observation on Treatment of Coronary Heart Disease with Foot Reflexotherapy, 1998 China Reflexology Symposium Report, China Reflexology Association, Beijing, pp. 38 - 41

## **Post Surgery**

### **Switzerland Study**

A Swiss medical report showed that Reflexology is one of the most useful treatments for post-operative gynaecological patients. The researchers demonstrated that reflexology enhances urination, stimulates bowel movements and so aids recovery; with less need for medication than patients in the control group.

*(Kesselring A. (foot reflex zone massage) Fussreflexzonemassage. Schweiz med Wochenschr suppl ( SWITZERLAND ) 1994, 62 p88-93)*

### **USA Study**

Results: Post surgical patients who receive foot massage and medication report "significantly less" pain than those on painkillers alone.

*"Foot Rubs Easing Pain," Third Age. com, December 4, 1998*