We are IntechOpen, the world's leading publisher of Open Access books Built by scientists, for scientists

6,900
Open access books available

185,000
International authors and editors

200M
Downloads

Our authors are among the

154
Countries delivered to

TOP 1%
most cited scientists

12.2%
Contributors from top 500 universities



WEB OF SCIENCE™

Selection of our books indexed in the Book Citation Index in Web of Science™ Core Collection (BKCI)

Interested in publishing with us?
Contact book.department@intechopen.com

Numbers displayed above are based on latest data collected.
For more information visit www.intechopen.com



17

Chinese Medicine and Integrative Approaches in the Prevention of Breast Cancer – Acupuncture Meridian, Pulsed Eletromagnetic Field Test and Chinese Food Therapy

Lulu Fu and Hong Xu
Victoria University,
Endeavour College of Natural Health,
Australia

1. Introduction

A series of studies conducted demonstrate the integrative abilities of hormone regulation and subsequent preventative strategies with the use of Chinese Medicine (CM) in the prevention of breast cancer and balancing hormones.

These investigations studied the patterns of disharmony for groups of middle aged women and explored the relationship between the CM patterns of disharmony and specific bio-markers (Xu, 2004; Fu & Xu, 2011).

Chinese medicine assessment in Fu and Xu's study (2011) indicated that the participants felt correspondingly weaker and their health conditions also had adverse trends in their middle age. They commonly had mood swings which relates to *Liver Qi stagnation*. Peri-menopausal symptoms also affected their daily life. Data collected from these participants indicated that the adverse symptoms and relative signs changed after the treatment resulting in the levels of disharmony being reduced. The changes of patterns of disharmony indicated in the Chinese medicine assessment are relevant to the change of biomedical markers, which may be useful in western-medical assessment of hormones fluctuation and pre-clinical breast diseases. If Chinese medicine diagnostic methods indicate that *Liver Qi stagnation* and *Liver-Kidney Yin deficiency* are the main patterns of middle aged women hormone fluctuation or pre-clinical breast diseases, it is reasonable to argue that the treatment principle should be based on regulating *Qi* and nourishing *Yin*. This study has provided a repeatable evidence of using the Chinese kiwi fruit extract for the regulation of hormonal disorder and Chinese medicine patterns of disharmony.

The bio-markers used in these studies are the 2-hydroxyestrone and 16α-hydroxyestrone (2-OHE: 16α-OHE), they are both reliable and sensitive in order to investigate the hormone imbalance. These can be easily applied as early preventative strategies that integrate both CM and Western diagnostic methods. The selected Chinese kiwi fruit *(Actinidia chinensis var. deliciosa*) extract could benefit women with hormone imbalance or hormone related diseases (Xu & Xu, 2006). In another clinical trial, 16 participants, who were diagnosed with breast

cancer and had just completed chemotherapy, were given this Chinese kiwi fruit drink (equal to 20g) daily over a seven day period. The results indicated that the rate of binucleate lymphocyte cells with micronuclei in these participants had significantly decreased. This may indicate the recovery of chromosome change in the breast tissue (Xu, 1999). Appropriate choice of nutritional products on the scientific basis is an important aspect in cancer patients' recovery (Xu & Xu, 2006).

This study focused on the relationships between the acupuncture meridian, Chinese food therapy and pulsed electromagnetic field test in the same population group, using a double-blind, placebo-controlled clinical trial.

1.1 Acupuncture meridian

In Chinese Medicine, all the primary 12 meridians passed the trunk area and over spread to peripheral extremities. The *Yang* meridians traverse the outer surface of the arm or leg and travel to the head and the back, in spite of the *Stomach Meridian* that are running the lateral side of the *Kidney Meridian*, at the anterior of the trunk. All *Yin* meridians traverse or bypass the breast area and the special superior lateral side of the breast. These meridians each correspond to different organ (*Zang Fu*) systems. Meridians harmonise the whole body's function if *Qi* and *Blood* could circulate well, they can also reflect the direct trauma and the *Zang Fu* function. Pathogens and diseases can make visible changes on the related meridians (Tang et al., 1999). The acupuncture meridians are important transportation channels, any blockage of the meridians will cause disease and disharmony in the body.

During the fourteenth century, Dr Dan-Xi Zhu summarized the etiology of breast cancer that a woman, who was worried and depressed, could suffer from an accumulation of stagnation. The stagnation could be the cause of *Liver Qi* rebels horizontally and the stagnation finally turns into nodules (Niu, 1996). Female hormonal related diseases and breast diseases are related to the *Liver* and *Kidney Meridians* (Fu & Xu, 2011).

1.2 Pulsed Electromagnetic Field (PEMF) test

Electromagnetic fields are present everywhere in our environment but are invisible to the human eye. One of the main characteristics which define an electromagnetic field is its frequency or its corresponding wavelength. Fields of different frequencies interact with the body in different ways (WHO, 2011). The equipment selected for the PEMF test is safe according to the WHO guideline. The magnetic field changes were measured by a noninvasive medical device, which has been supplied on the market for over 10 years. This magnetic test, using a polarized light can detect a defect at the cellular level (Gianni & Liberti, 2006).

Humans have an electromagnetic energy field, the human body is an aerial that can transmit and receive energy (William, 2002). When there is a disorder, the magnetic field could be alternated by the *Qi and Blood* stagnation in CM theory. Magnetic therapy has been used in CM practices from 200 BC according to CM history.

In the early stage study of electromagnetic models, the magnetic network was recognized similar to the acupuncture meridian (Omura, 1986). Later study indicated that the acupuncture meridians were related to the electromagnetic model of transmission lines (Yung, 2005). In this study, the polarized light was used to detect the magnetic field change near and along the acupuncture meridian.

1.3 Chinese Kiwi Fruit Extract

Chinese herbal formulae, food therapy and acupuncture have long been used to effectively regulate endocrinal disorders in Chinese clinical practice. One Chinese food therapy of interest is the Chinese food formula - Kiwi Fruit Extract (KFE), which has been used in practice for many years and related safety tests have also been conducted. Kiwi fruit extract is rich in vitamin C, vitamin E, vitamin K, folate, antithetic acid, niacin, lutein, zeaxanthin, arytenoids, falconoid, calcium, iron, manganese, selenium, zinc, copper, potassium, magnesium, fibre and amino acids (Collins et al., 2001).

Xu (2004) in his book *The Progress of Resource, Environment and Health* indicated that: Some varieties of kiwi fruit found in China have a strong anti-mutagenesis effect. When somatic cells change into cancer cells they will go through mutation, apoptosis of cells and loss of control of proliferation. Mutagenesis can be examined by gene mutation, chromosome aberration and DNA damage in laboratory experiments. High mutagenic rates can indicate the risk of cancer. There are many mutagens in the environment, e.g., coal, petroleum, tobacco, uncompleted burning of products benzo(a)pyrene etc. Polycyclic Aromatic Hydrocarbons (PAHs); over stir fried meat PhIP; peanuts, corn etc. produce aflatoxin in the damp heat environment polluted by mould; farm chemicals that pollute food like nitrous amine compound (nitrosamine), organic chlorine, toxic algae's toxins, organic pollutions in water e.g., methyl mercury; benzene, formaldehyde which are chemical pollutants in workshops and living room air; as well as overdoses of irradiation of ultraviolet ray and electromagnetic waves. The greater concern for cancer patients is some chemotherapy drugs e.g., cyclophosphamide, radiotherapy's radiation is also a mutagen.

To reduce the effects of the mutagen and the side effects of chemotherapy and radiotherapy it is beneficial to use therapeutic fruits, i.e., kiwi fruit and hawthorn fruit, which have broad anti-mutagenesis effects. Moreover, these fruits have the effect of increasing immune function. Of course, use of expansion agents to increase the size of the kiwi fruit can damage the quality of the kiwi fruit. To enhance kiwi fruit's health care effects, withdrawing the effective components, e.g., anti-cancer isoflavones, organic acids, polysaccharide and trace element, by formulation and scientific experiments to produce functional health care products, can enhance the whole anti-cancer defensive system, e.g., Hong En Health Drink (Xu & Xu, 2006).

KFE is used to improve the quality of life of women suffering from endocrine disorders (Xu, 2004; Fu & Xu, 2011). In this study, the effects of KFE on regulating the function of acupuncture meridians and unblocking the stagnation in these meridians were evaluated.

2. Research methodologies

Thirty-six middle aged peri-menopausal women living in Melbourne Australia were recruited and randomly assigned (using numbered order as they became available) into two groups, treatment group taking KFE and control group taking placebo. The group assignments were kept blind from the participants and data collectors. All the participants were in the age range from 40 to 55 year-old. They were not taking either contraceptive pills or hormone replacement therapy. None of them suffered from either breast cancer or liver and or kidney disease according to western medicine and they did not have any food allergies.

Participants took 10g of powder, either KFE or placebo each time, twice a day, mixed with 100ml of warm water. The powder was administered one hour before each breakfast and dinner meal, over an eight week period. The selected Chinese therapeutic food is a wild resourced Chinese kiwi fruit extract, Hong En No. 1 (also known as Hong En Health Drink) in powder form, provided by Professor Houen Xu of Peking University.

Pulsed electromagnetic field changes at pre and post trial were tested, at the trunk area, where the pass way of acupuncture meridians distributed. Each test lasted about 10 minutes to go through all the meridians on both the left and right side of the body, this short time exposure to the PEMF is not expected to cause any change to the body. No adverse events were reported by any of the participants in this study.

The Ultra-long Electromagnetic Wave technique, a pulsed electromagnetic field (TW-1) was selected, supplied by Health Link Food & Equipment Pty. A polarized light was used for detecting changes in the magnetic flux, the light turns off when the magnetic flux is blocked. The results were recorded on a map where there is an anatomical drawing of the human trunk. These include the depiction of any defective areas found in the two dimensions (length and width). A 0-10 scale is used to measure the portion of the blockage, "0" represents unblocked and "10" represents fully blocked. The tested area on the body was restricted between the mid-clavicular line and mid-axillary line, from the iliac crease to the clavicula and the axillary line at the trunk area, which matches the CM *Liver Meridian* area (See Figure 1).

The detailed steps of magnetic test were to:

- Obtain consents from participants to record the dots on their bodies and to take photographs as records for the first measurement and the last measurement.
- Explain the test purposes and procedure to the participant individually. Place the patient in supine position with the arm at 90 degree abduction.
- Measure the area of the magnetic test.
- Record the magnetic flux changes on the surface of the skin with a marker. The marks will show any defective areas found along the *Liver Meridian*.
- Use a tape measure to measure the magnetic flux changes area (width and length).
- Record the dots formed on a body map, which include the trunk area of the anatomy.
- Remove the marks on the skin, cleaning with ethanol swabs or wet cotton ball.

The study was approved by the related committees and the ethics approval was gained from the Human Research Ethics Committee of Victoria University, Australia. All participants received an explanation document and a consent form for completion.

3. Results and discussion

All the 36 participants (aged 48.38 ± 3.97 in the treatment group and 48.50 ± 5.15 in the control, $p > 0.05$) completed the tests (See Table 1), the magnetic test results were positive which indicated that blockage existed in the tested areas. The *Liver* and *Kidney* meridians in breast and flank areas are mostly affected. The average of the test results of both the left and right sides of the *Liver* and *Kidney* meridians, in both the treatment and the control group were analyzed using *t-test* by SPSS 19.

The pre-trial PEMF test results indicated that both the meridians of KFE and control groups were blocked at similar levels, there were no significant differences between the pre-trial comparisons in the two groups ($p > 0.05$) (Table 1).

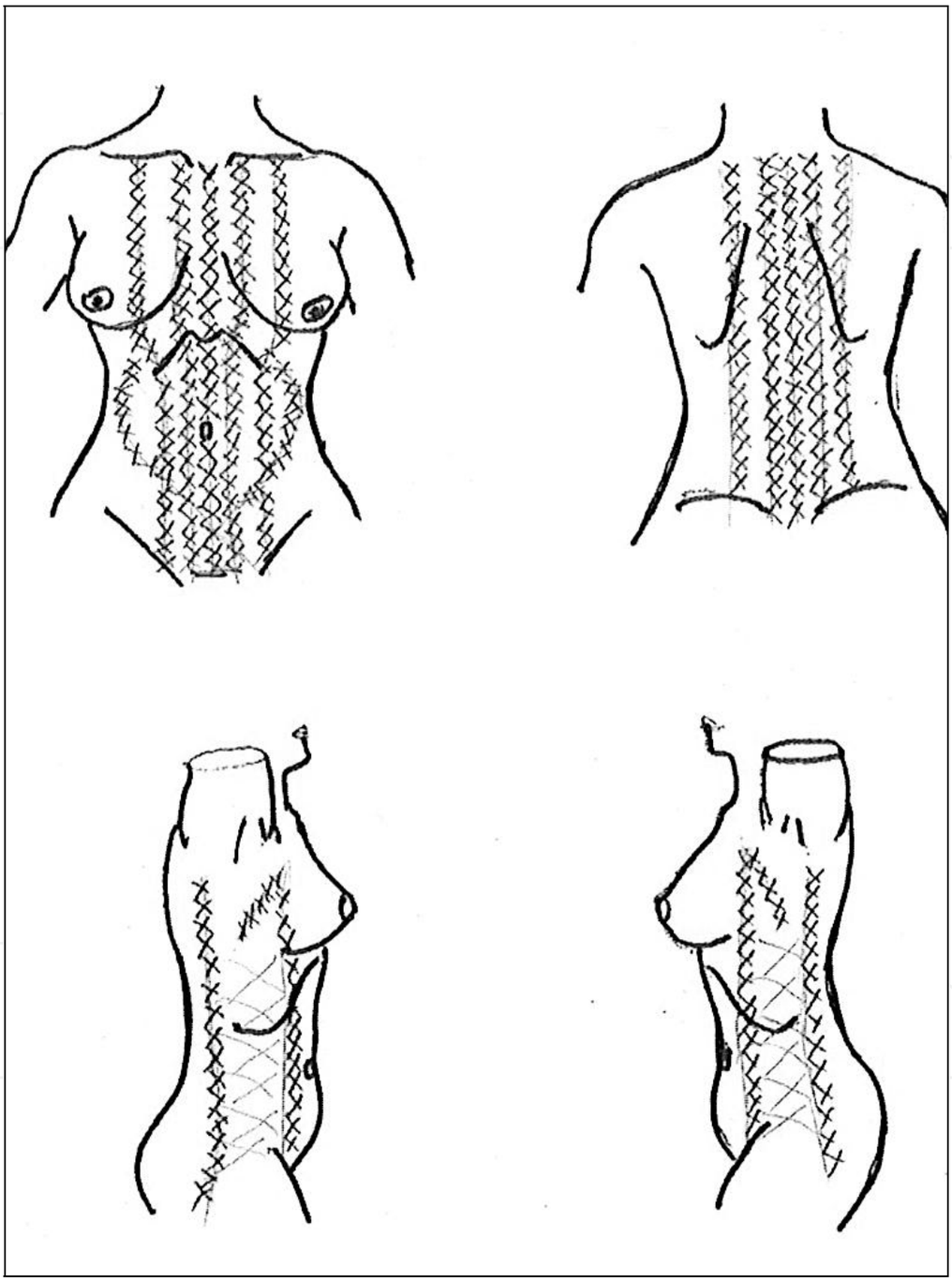


Fig. 1. PEMF test transmission lines

Groups	n	Age (years)	*Liver Meridian* PEMF test	*Kidney Meridian* PEMF test
Treatment	18	48.38 ± 3.97	7.64 ± 4.18	5.61 ± 4.99
Control	18	48.50 ± 5.15	6.11 ± 4.94	4.89 ± 4.86

Notes: *Participants in treatment group take Chinese kiwi fruit extract (Hong En No. 1) 10g X 2/days X 8 weeks; **Participants in control group take placebo
$p > 0.05$ between groups.

Table 1. Pre - trial base-line comparison of the age and PEMF test results (mean ± SD) between the treatment* and control** group of peri-menopausal women

After eight week's treatment, the results of the PEMF tests were significantly different between the two groups and between the pre and post treatment on the *Liver Meridian* (See Table 2). This indicates that KFE can improve *Liver Meridian*'s function. The results of the pre and post treatment comparison on the *Kidney Meridian* indicated a reduction of the meridian blockage while there was no change observed in the control group. However, this comparison did not achieve statistical significance (Table 3). According to common CM theory and practise, it could take much longer time to recover *Kidney* disorders, especially if the disorder is related to the pattern of deficiency. In the previous study (Fu & Xu, 2011), *Kidney* function can be improved by KFE indicated by the biomarker 2-OHE:16α-OHE change. It is therefore suggested that an integrative approach that incorporates different diagnostic methods may be a more effective way to identify and prevent breast diseases.

Groups	n	Pre-trial *Liver Meridian* PEMF test	Post-trial *Liver Meridian* PEMF test
Treatment*	18	7.64 ± 4.18	1.33 ± 2.68**
Control	18	6.11 ± 4.94	4.67 ± 4.95***

Notes: *Participants take Chinese kiwi fruit extract (Hong En No. 1) 10g X 2/days X 8 weeks. **Pre and post comparison in treatment group, $p = 0.000$, $t = 8.864$;
***Post-trial comparison between treatment and control groups, $p = 0.003$, $t = 3.252$¶

Table 2. Comparison of *Liver Meridian* PEMF test results (mean ± SD) of peri-menopausal women

Groups	n	Pre-trial *Kidney Meridian* PEMF test	Post-trial *Kidney Meridian* PEMF test
Treatment*	18	5.61 ± 4.99	4.58 ± 4.88
Control	18	4.89 ± 4.86	4.89 ± 5.00

Note: $p > 0.05$.

Table 3. Comparison of *Kidney Meridian* PEMF test results (mean ± SD) of peri-menopausal women

Most participants in the KFE group reported the improvement of general well-being after taking KFE, the details included: the decrease of hot flushes, mood swing, tiredness, abdominal distension and anger. However, these changes were not reported by the control group. There were no adverse events reported.

4. Conclusion

In this study, the pulsed electromagnetic field test is an effective diagnostic tool for the detection of acupuncture meridian disorder. The stagnation of the meridian is related to the magnetic field change. Chinese kiwi fruit extract could regulate the function of the acupuncture meridians which have been proved by the pulsed electromagnetic tests. These approaches can be easily applied as early preventative and diagnostic strategies that integrate both Chinese Medicine and contemporary therapies.

5. References

Xu, H.E. (2004). Chinese Kiwi Fruit and Health, In: *The Progress of Resource, Environment and Health in China - SCOPE China Publication Series III*, H.E. Xu, (Ed.), 113-133, Peking University Medical Press, ISBN 7-81071-559-3, Beijing, China

Fu, L.L. & Xu, H. (2011). A Preliminary Study of the Effectiveness of Chinese Therapeutic Food on Regulating Female Reproductive Hormones. *Integrative Medicine Insight,* Vol 6, (March 2011), pp. 7-12, ISSN 1177-3936

Xu, H. & Xu, H.E. (2006). Chinese Food and Cancer Healing. *Integrative Medicine Insights,* Vol 1, (Febuary 2007), pp. 1-5, ISSN 1177-3936

Xu, H.E. (1999). *Hong-En Health Drink – Development and Research*, Beijing Medical University Publishing House, pp. 11-21, ISBN 7-81034-975-9, Beijing, China

Tang, Y.X; Dang, Y. & Geng, E.G. (1999). *Acupuncture and Moxibustion*, Academy Press, pp. 462–480, ISBN 7-5077-1269-9, Beijing, China

Niu, J.Z. (1996). *Modern Gynecology of Traditional Chinese & Western Medicine,* China Science and Technology Publishing House, pp. 39-46. ISBN 9787504619402, Beijing, China

WHO, (2011). Electromagnetic Fields, Available from http://www.who.int/peh-emf/about/WhatisEMF/en

Gianni, M. & Liberti, M. (2006). Modeling Electromagnetic Fields Detectability in a HH-like Neuronal System: Stochastic Resonance and Window Behavior. *Biological Cybernetics,* Vol.94, No.2, pp. 118-127, ISSN 0340-1200

William, S. (2002). The Human Electromagnetic Energy Field: Its Relationship to Interpersonal Communication. *Journal of Theoretics,* Vol.4, No.2, ISSN 1529-3548

Omura, Y. (1986). Re-evaluation of the Classical Acupuncture Concept of Meridians in Oriental Medicine by the New Method of Detecting Meridian-like Network Connected to Internal Organs Using "Bi-Digital O-Ring Test". *Acupuncture & Electro-Therapeutic Research,* Vol.11, No.3-4, pp. 219-31, ISSN 0360-1293

Yung, K.T. (2005). A Birdcage Model for the Chinese Meridian System: Part III. Possible Mechanism of Magnetic Therapy. *The American Journal of Chinese Medicine,* Vol.33, No.4, pp. 589-597, ISSN 1793-6853

Collins, B.H.; Horská, A.; Hotten, P.; Riddoch, C. & Collins, AR. (2001). A Kiwifruit Protects Against Oxidative DNA Damage in Human Cells and in Vitro. *Nutrition and Cancer.* Vol.39, pp. 148-153, ISSN 1532-7914

IntechOpen

IntechOpen



Recent Advances in Theories and Practice of Chinese Medicine
Edited by Prof. Haixue Kuang

ISBN 978-953-307-903-5
Hard cover, 504 pages
Publisher InTech
Published online 18, January, 2012
Published in print edition January, 2012

During the recent years, traditional Chinese medicine (TCM) has attracted the attention of researchers all over the world. It is looked upon not only as a bright pearl, but also a treasure house of ancient Chinese culture. Nowadays, TCM has become a subject area with high potential and the possibility for original innovation. This book titled Recent Advances in Theories and Practice of Chinese Medicine provides an authoritative and cutting-edge insight into TCM research, including its basic theories, diagnostic approach, current clinical applications, latest advances, and more. It discusses many often neglected important issues, such as the theory of TCM property, and how to carry out TCM research in the direction of TCM property theory using modern scientific technology. The authors of this book comprise an international group of recognized researchers who possess abundant clinical knowledge and research background due to their years of practicing TCM. Hopefully, this book will help our readers gain a deeper understanding of the unique characteristics of Chinese medicine.

How to reference
In order to correctly reference this scholarly work, feel free to copy and paste the following:

Lulu Fu and Hong Xu (2012). Chinese Medicine and Integrative Approaches in the Prevention of Breast Cancer – Acupuncture Meridian, Pulsed Eletromagnetic Field Test and Chinese Food Therapy, Recent Advances in Theories and Practice of Chinese Medicine, Prof. Haixue Kuang (Ed.), ISBN: 978-953-307-903-5, InTech, Available from: http://www.intechopen.com/books/recent-advances-in-theories-and-practice-of-chinese-medicine/chinese-medicine-and-integrative-approaches-in-the-prevention-of-breast-cancer-acupuncture-meridian-

INTECH
open science | open minds

InTech Europe
University Campus STeP Ri
Slavka Krautzeka 83/A
51000 Rijeka, Croatia
Phone: +385 (51) 770 447
Fax: +385 (51) 686 166
www.intechopen.com

InTech China
Unit 405, Office Block, Hotel Equatorial Shanghai
No.65, Yan An Road (West), Shanghai, 200040, China
中国上海市延安西路65号上海国际贵都大饭店办公楼405单元
Phone: +86-21-62489820
Fax: +86-21-62489821

© 2012 The Author(s). Licensee IntechOpen. This is an open access article distributed under the terms of the Creative Commons Attribution 3.0 License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

IntechOpen

IntechOpen