2025第三屆健身氣功初級教練培訓班
中國香港健身氣功總會
香港職業治療學會

The basic theory of Chinese and Western medicine for health qigong
(健身氣功的中西醫基理)

Dr Bacon NG (吳鳳亮 博士)

25 - 10 – 2025 6:30pm
博愛曙光醫院20樓

Handout - www.baconng.org

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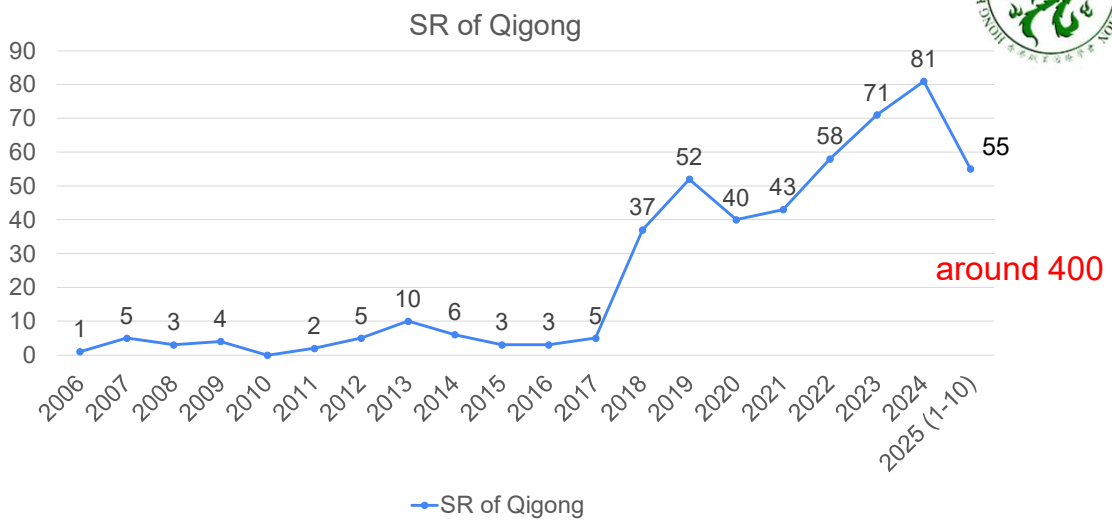
Systematic Reviews (SR) [06-25(Oct)]



around 400

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Mechanism (生物機制)

- ↓ Corticotrophin (促腎上線皮質激素) & aldosterone (醛固酮) (Ryu H, et al, 1996)
- ↓ C-reactive protein (inflammation) (Hung H et al, 2016)
- ↓ Cholesterol (膽固醇), Blood Pressure (Ng and Tsang, 2015; B. F. L. Ng, 2018; Tao S & Li Z, 2023)
- ↑ IFNγ : IL10 (Type 1 vs 2 Cytokines (細胞激素) ratio, ie. favour cell-mediated immunity) (Oh B et al, 2020)
- ↑ Mast cells (肥大細胞) (Mastocyte) activity (rich in histamine, cytokines, chemokines and proteases), immune response (Wang, Ayati, & Zhang, 2010)
- ↑ Adiponectin (脂聯素) (Chan J et al, 2017)
- ↑ Telomerase activity (端粒酶) (Ho et al., 2013, Yau et al., 2014

- ↓ HPA Axis activity (「下視丘/腦垂體/腎上腺」軸) (Tsang et al., 2003, 2006; Ponzio E et al, 2015)
- ↑ Parasympathetic Nervous System Activity (副交感神經系統) (So W et al, 2019)

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Mechanism of Qigong

Neurotransmitter Mechanism (神經遞質系統)

Increase tryptophan 色氨酸

↑ brain serotonin (血清素) synthesis and release

Mindful relaxation

↓ stressful signals to limbic system

Downregulates HPA Axis

↓ release Adrenal glucocorticoid (腎上腺糖皮質素)

Reduce Stress

Up-regulate Brain-derived Neurotropic Factor (BDNF) (腦源性神經營養因子)

Down-regulate adrenal cortisol (腎上腺皮質)

Tsang, H. W. H., & Fung, K. M. T. (2008). A review on neurobiological and psychological mechanisms underlying the anti-depressive effect of qigong exercise. *Journal of Health Psychology*, 13(7), 857-863.

Tsang, H. W. H., Tsang, W. W. N., Jones, A. Y. M., Fung, K. M. T., Chan, A. H. L., Chan, E. P., et al. (2013) Psycho-physical and neurophysiological effects of qigong on depressed elders with chronic illness. *Aging & Mental Health*, 17(3), 336-348.

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Mechanism of Qigong

Hormone (激素) & Enzyme (酵素/酶) Mechanism

- Physical exercise-induced hippocampal neurogenesis and anti-depressant effects are mediated by the adipocyte hormone **adiponectin (脂聯素)** (ADN). Possible of activating ADNR1/ AMPK signaling pathways [Yau, et al., 2014]
- Effect of a qigong intervention program on Telomerase (端粒酶) activity and psychological stress in abused Chinese Women: a randomized, wait-list controlled trial [Tiwari, et al., 2014]

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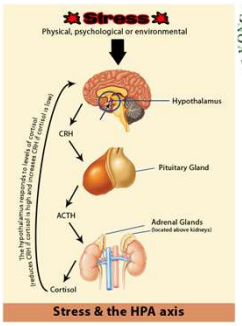
Mechanism of Qigong

HPA Axis（邊緣系统）

- Qigong induced anti-depressive effect and may be explained by Down-regulation of Hypothalamus-Pituitary-Adrenal (HPA) activity among those who were relatively more severe in their depression **調節HPA軸(邊緣系统)(下丘腦-垂體-腎上腺軸)的活動降低皮質醇水平，並有抗抑鬱的作用**



http://www.50symptomsgone.com/wp-content/uploads/2014/09/hpa-axis.gif

Ho, R. T. H., Chan, J. S. M., Ng, S. M., Lau, B. W. M., So, K. F., Cheung, I. K. M., Ng, B. F. L., Ziea, E. T. C., & Chan, C. L. W. (2013). The regulation of HPA activity and anti-aging effect of Qigong exercise for patients with chronic fatigue syndrome: telomerase activity and salivary cortisol. The 34th Annual Meeting & Scientific Sessions of the Society of Behavioral Medicine, San Francisco, CA. Annals of Behavioral Medicine, 45(S2), s307, D-213.

Chan, E. P. (2012). Psychological and neurological effects of qigong exercise on older adults with co-occurring depression and chronic medical illness. Master Thesis of HKPU

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Mechanism of Qigong

Blood / BP (血液/血壓) Mechanism

- Qigong reduce stress via its effect on suppressing plasma (血漿) concentrations of corticotrophin (促腎上線皮質激素), cortisol, and aldosterone [Lee, Kang, Lim & Lee (2004)]
- Qigong had positive effects on physiological system by increasing the number of white blood cells and lymphocytes, lowering of total cholersterol, BP [Ng & Tsang 2009]
- Significant reduction of inflammation indicated by inflammation biomarker c-reactive protein [Oh, et al., 2008]

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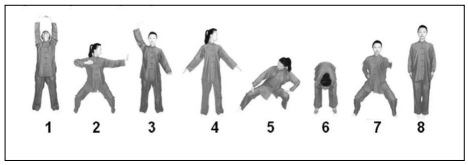
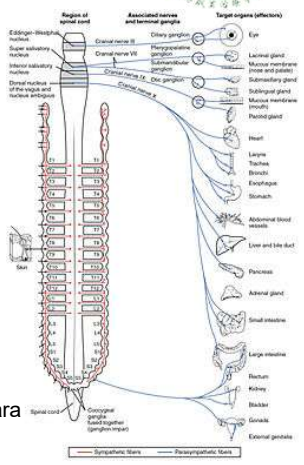
Mechanism of Qigong

Parasympathetic (副交感) Nervous System Mechanism

- PSNS stimulates “rest-and-digest” / “feed and breed” activities when the body is at rest, especially after eating, including sexual arousal, salivation, tears, urination, digestion and defecation.
- Baduanjin different forms
  - Form 2 relates to Oculomotor nerve,
  - Form 5 relates to pelvic splanchnic nerves(骨盆內臟神經),
  - Form 8 relates to 8 glossopharyngeal nerve,





https://en.wikipedia.org/wiki/Parasympathetic_nervous_system

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Mechanism of Qigong

Behavioural Changes Mechanism

- Habit formation
- Stress Management
- Chronic fatique syndrome
- Sleep pattern
- Optimal exercise dosage
- Lifestyle

Chan, J. S. M., Ng, S. M., Ho, R. T. H., Ziea, E. T. C., Ng, B. F. L., & Chan, C. L. W. (March 2013). Does Qigong shape body, mind and spiritual health for patients with chronic fatigue syndrome (CFS) in a RCT? The 34th Annual Meeting & Scientific Sessions of the Society of Behavioral Medicine, San Francisco, CA. Annals of Behavioral Medicine, 45(S2), s278, D-085. Retrieved from http://ww.springer.com/medicine/journal/12160

Chan, J.S.M., Ho, R., Ng, S. M., Ziea, E. T. C., Ng, B. F. L., & Chan, C. L. W. (Nov 2013). Qigong exercise improves the sleep quality of the patients with chronic fatigue syndrome: A waitlist randomized controlled trial. 141st Annual Meeting and Expo., Boston. Retrieved from https://apha.confex.com/apha/141am/webprogram/Paper289896.html

Tsang, H.W.H., Cheung, W.M., Chan A.H.L., Fung, K.M.T., Leung, A.Y., & Au D.W.H. (2015). A Pilot Evaluation on a Stress Management Programme Using a Combined Approach of Cognitive Behavioural Therapy (CBT) and Complementary and Alternative Medicine (CAM) for Elementary School Teachers. *Stress Health*, 31, 35-43.

Ng, B. F. L., & Tsang, H, W. H. (2015 Dec). *An Overview of Evidence and Experience of Health Promotion Using Health Qigong in the Local Community.* Oral presentation at the 9th Pong Ding Yuen International Symposium on Traditional Chinese Medicine. Chinese Medicine for Mental Health From Bedside to Bench Hong Kong University, Hong Kong.

Ng, B. F. L., & Tsang, H. W. H. (2015, October). *Using the Model of Human Occupation to conceptualize & develop a Lifestyle Modification Program in Primary Health Care.* Oral presentation at the 4th International Institute on the Model of Human Occupation. Indianapolis, IN.

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四套「健身氣功」對各臟腑之關係

	臟腑		四套健身氣功			
	臟	腑	六字訣	八段錦	易筋經	五禽戲
木	肝	胆	“噓”	7“攢拳怒目增氣力”	9“青龍探爪勢”	1,2“虎戲”
火	心	小腸	“呵”	4“五勞七傷往後瞧” 5“搖頭擺尾去心火”	1“韋馱献杵第一、2 二勢”、 5“倒拽九牛尾勢”	7.8“猿戲”
土	脾	胃	“呼”	3“調理脾胃須單舉”	7“九鬼拔馬刀勢”	5.6“熊戲”
金	肺	大腸	“呬”	2“左右開弓似射雕”	6“出爪亮翅勢”	9.10“鳥戲”
水	腎	膀胱	“吹”	6“兩手攀足固腎腰”	4“摘星換斗勢”、 8“三盤落地勢”、 9“青龍探爪勢”、 11“打躬勢”	3.4“鹿戲”
生		三焦	“嘻”	1“兩手托天理三焦”	3“韋馱献杵第三勢”	
	主要經脈 任督脈			8“背後七顛百病消”	11“打躬式”、 10“卧虎扑食勢”、 12“掉尾勢”	

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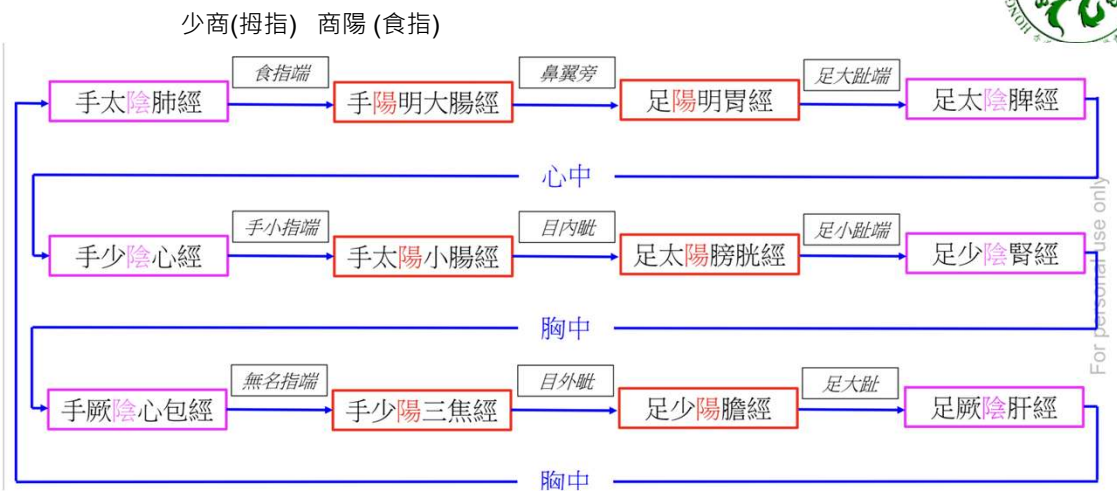
Meridians Flow



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Meridian and Baduanjin

	Form
• Triple Warmer Meridian	1
• Pericardium Meridian	1
• Bladder Meridian	1
• Large Intestine Meridian	1, 2
• Small Intestine Meridian	1
• Lung Meridian	2, 4
• Liver Meridian	2 , 4, 7
• Ren Meridian	3
• Stomach Meridian	3
• Gall Bladder Meridian	3
• Spleen Meridian	3, 4
• Heart Meridian	4, 5
• Kidney Meridian	4, 6, 8
• Du Meridian	8

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五禽戲 WuQinXi

(中醫臟腑理論)

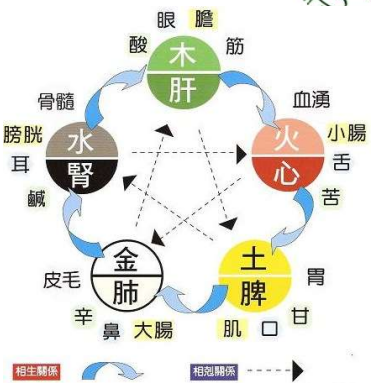
虎戲 = 虎舉, 虎撲 → 肝 (木)

鹿戲 = 鹿抵, 鹿奔 → 腎 (水)

熊戲 = 熊運, 熊晃 → 脾 (土)

猿戲 = 猿提, 猿摘 → 心 (火)

鳥戲 = 鳥伸, 鳥飛 → 肺 (金)



<三國志•華佗傳>記載，順序為虎、鹿、熊、猿、鳥

2003年出版上海體育學院整理開司以容易練習動作和和佗傳為順序

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Meridian and Liuzijue (六字訣)

Form

任脈穴	0	
督脈穴	0	
足厥陰肝經穴	1	
足少陽膽經穴		1
手少陰心經	2	
手太陽小腸經		2
足太陰脾經	3	
足陽明胃經		3
手太陰肺經	4	
手陽明大腸經		4
足少陰腎經	5	
足太陽膀胱經		5
手少陽三焦經	6	
手厥陰心包經		6

0 預備勢
1 一式，噓
2 二式，呵
3 三式，呼
4 四式，呬
5 五式，吹
6 六式，嘻

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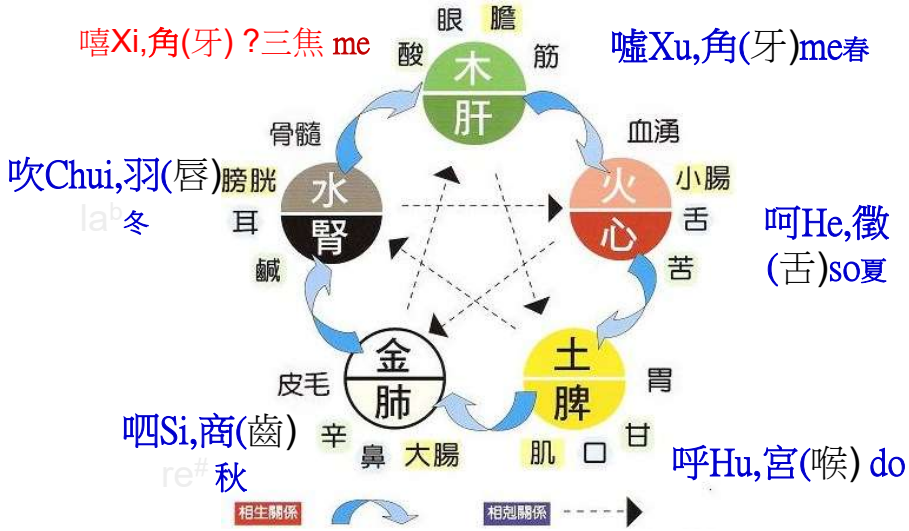
Meridian and Liuzijue (六字訣)



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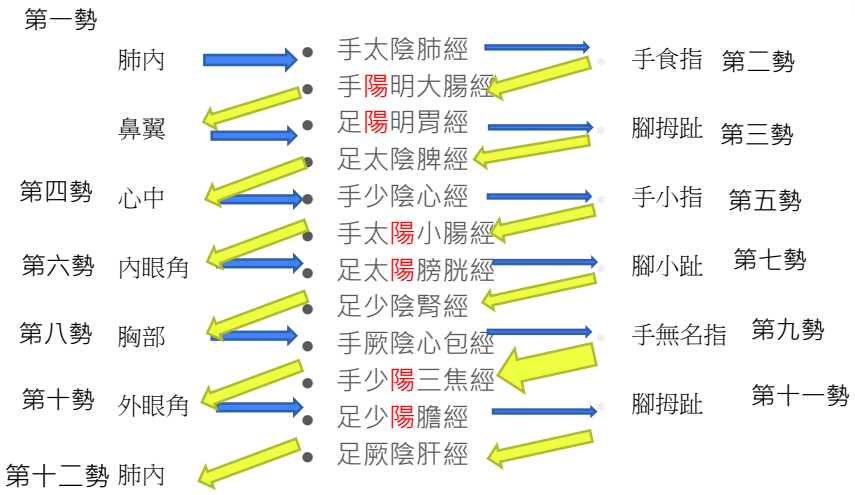
Yijingging & Meridian

循經與易筋經每一勢的關係



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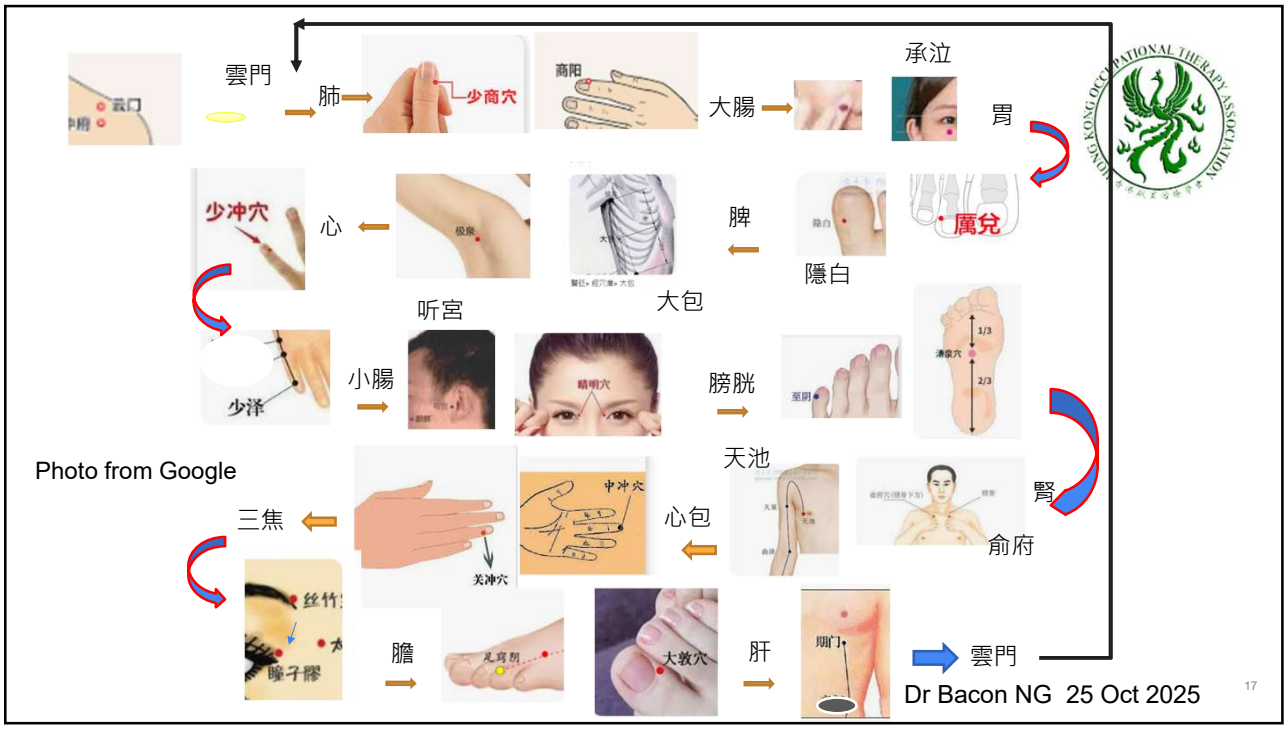

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Evidences of SRs

- Network meta-Analysis (Li et al., 2022):
  - WQX improved lung function and 6-MWT,
  - YJJ enhanced QOL Taichi and HQ in older adults reported that both physical and cognitive improvement (Park et al., 2023).
- Bayesian Network Meta-analysis (Zeng et al., 2024) of breast cancer survivors showed that mindfulness-based interventions (eg HQ) > exercise interventions in improving cognitive function, especially in verbal memory and executive function.
- Bibliometric analysis of 14 countries, which showed that Baduanjin is the most frequently researched 55% than Wuqinxi (7%) and Yijinjing (7%) (Zhang et al., 2020).

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Evidence of SRs - Population

- Pulmonary rehabilitation, such as Chronic obstructive pulmonary disease (COPD) (Ng et al., 2014)
- Fibromyalgia, (Chan, Wang and Ho, 2012),
- Cardiac rehabilitation (Cecilia L.W. Chan et al., 2012)
- Supportive for cancer (Cecilia L W Chan *et al.*, 2012)
- Immunity (Wang et al., 2012)
- Depressive and anxiety (F. Wang et al., 2013; C.-W. Wang et al., 2013).
- Diabetic mellitus (Ng and Tsang, 2015; Ng, 2018)
- Muscular-skeletal pain (Zhang at al, 2019; Li et al., 2021)
- Osteoarthritis (Li et al., 2020)
- People with mental health (Zou et al., 2018)
- ...

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Evidence of SRs - Health Benefit

- Improve physical and mental health
- Improve cardiovascular function
- Improve balance and flexibility
- Improve quality of life (QoL)
- Reduce blood pressure and stress
- Reduce pain level
- …

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Health Qigong (Baduanjin Sitting Type)

Lu, E. Y., Lee, P., Cai, S., So, W. W. Y., **Ng, B. F. L.**, Jensen, M. P., Cheung, W. M., & Tsang, H. W. H. (2020). Qigong for the treatment of depressive symptoms: Preliminary evidence of neurobiological mechanisms. International Journal of Geriatric Psychiatry. PMID 32662069. doi:10.1002/gps.5380

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Health Preservation (養生預防)

Nine Chinese health preservation strategies (Tam, 2009)

- ✓ Regulate qi (養氣)
- ✓ Practise traditional Chinese exercise or health qigong (導引)
- ✓ Create a healthy lifestyle habit and harmony with the nature and the four seasons (時養)
- ✓ Be conscious of food and drinks according to the body constitute (食養)
- ✓ Respect life and aging (養老)
- ☐ Maintain biopsychosocial balance to regulate desires and emotion (養心)
- ☐ Improve the prenatal care (胎養)
- ☐ Use of herbal medication to improve health (藥養)
- ☐ Sex Counsel (房中術)

Tam, H. [譚興貴] (Ed. . (2009). *中醫養生保健研究 - 衛生部"十一五"規劃教材*. 北京: 人民衛生出版社.

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Circadian Lifestyle

Implication to Theory

1. Practice health qigong/ Taichi benefit health and worth to consider as regular exercise
2. A health equation is proposed:

$$f_{Health}(Behaviour, t) = \frac{Health_{baseline} + d_{Protective\ behaviour} - d_{Risk\ behaviour}}{dt}$$

Habits:
Healthy eating
Moderate Exercise
Vegetable daily

Habits:
Drinking Tea
Health Qigong
Acupressure
Dark room for sleep
Regular breakfast
Circadian Lifestyle …

Habits:
Late sleep
Drinking
Smoking
…

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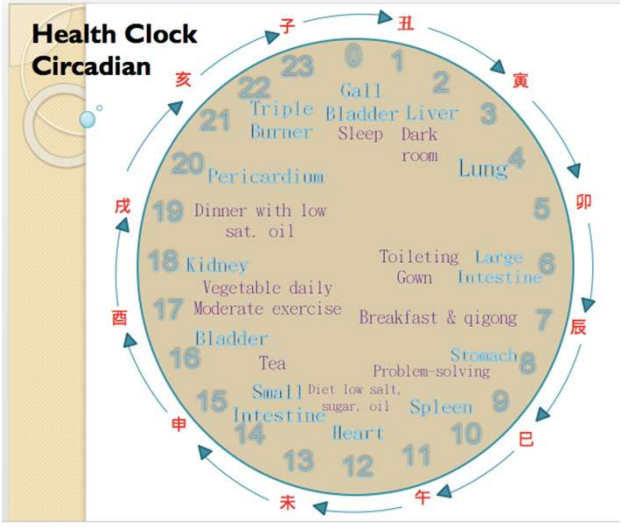
Circadian Lifestyle



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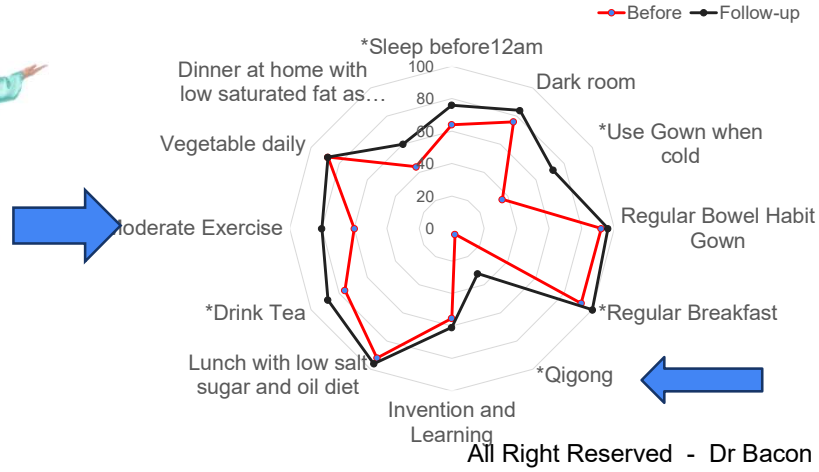
Circadian Lifestyle Significant Activities

Radar Diagram of the % of participants of Activity Adoption of the Treatment Group



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HA Presentations by SIG Members

- 23 presentations published in HA Convention between 2012 to 2024 covered 12 hospitals
- Systematic Review (1), RCTs (4), groups comparison (4) and pre and post cohort design (14). T
- chronic low back pain, cardiac rehabilitation, mild cognitive impairment, anxiety disorder, dementia, stroke survivors, rheumatoid arthritis, oncology and staff with Injury-on-duty.
- Outcome improvements in physical function (pain, tolerance and balance), psychological health (depression and anxiety), cardiovascular function (blood pressure and cholesterol), Quality of Life and efficacy of self-management.
- Details in Table 1-1, 1-2, 1-3

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Clinical Implication

- The reciprocal regulation mechanism of qigong which act on the hypothalamic-pituitary-adrenal (HPA) axis help to achieve a state of hemostasis with Increase in telomerase activity
- Qigong has both short-term and long-term effects in
  - Reducing fatigue (Cortisol level)
  - Improving mental health
- The suggested minimum dosage of health Qigong:
  - At least 3 days per week
  - At least 30 minutes each time
  - At least 5 weeks continuously
  - Fade away if ceased to practice at 6 months

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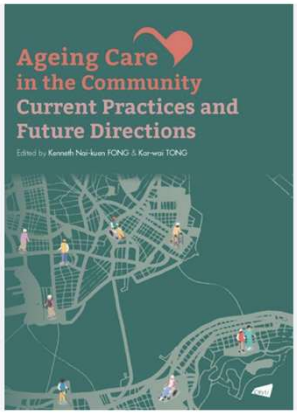
Reference: Book Chapter

Ng, B. F. L., & Tsang, H. W. H. (2024). East and West lifestyle modification for health promotion during the ageing process p.37-64. In K. N. K. Fong & K.W. Tong (Eds.). Ageing Care in the Community. Current Practices & Future DirectionsCity University of Hong Kong Press. Hong Kong.



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Thank you

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