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# Yoga & Qigong – A Self-reliant Practice for Health of Body & Mind

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Additional information is available at the end of the chapter

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## Abstract

Yoga originated from India and is becoming popular worldwide. Qigong originated from China and is less known outside China. Interestingly, both Indian Yoga and Chinese Qigong emphasize on three common components in their fundamental practices, viz. (i) stretching of muscles, tendons and ligaments when thousands of proprioceptive receptors which initiate the “gate theory” of neurological control of pain perception are stimulated; (ii) controlled breathing which harmonizes the somatic and autonomic systems of neurological activities; and (iii) the wonderful outcome after such simple voluntary efforts, a state of tranquility of the mind, which could be understood as Meditation. A comprehensive review on the reports on Yoga and Qigong practices affecting the important physiological processes and mental states of the practitioners is completed to provide reliable information about the value of the practices. Result of the review shows that there are sufficient evidences today, after many carefully planned research studies, on the supportive effects of both Yoga and Qigong on not only neuromuscular pathologies but also problems in cardiovascular, pulmonary and most remarkably, mental health. Yoga and Qigong practices are good for both the body and mind.

**Keywords:** Yoga, Qigong, Body-mind health

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## 1. Introduction

The current concept of Health is not only “a state of complete physical, mental, social and spiritual well-being, and not merely an absence of disease or free from infirmity” as was

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defined by the World Health Organization [1]. With the increasing complexity of the modern society, the stress and pressure encountered by the individual living in affluent communities could be expected [2]. In the extreme situations, total loss of ability to social adaptation could result in institutionalization in asylum related infrastructures. For the less severely affected, depression and mental stress may significantly affect the activities of daily living of the individual. The rising incidence of psychiatric disorders as a disease therefore appears mandatory [3]. Likewise, apparently normal working individuals may actually suffer from periodical depression in response to fluctuating emotional and work pressure. Psychiatrists and general practitioners are encountering more and more such patients [4]. This group of people under mental stresses may sadly develop into varying degrees of anxiety disorders and depression, or may eventually turn psychiatric. Others, who are either capable of self-care or enjoy good family support, could manage to maintain a reasonably balanced mental stability. The ability to maintain such stability is often the result of special efforts ranging from persistence on bodily exercises, social activities and unique life styles [5, 6].

In this chapter we explore the value of bodily exercises originated in the Orient that require persistent self-practices through which the individual gradually reaches a state of physical and mental stability, esteeming to a higher level of mental serenity which might carry the individual away from the drastic stresses being experienced. Yoga from India and Qigong from China are two popular systems of self-performed bodily exercises that help to maintain the Healthy state of the body and mind [7, 8].

## 2. Yoga and Qigong

The experts in Yoga or Qigong usually belong to special groups of respectable practitioners and tend to strongly believe that only their own unique stereotyped practices would be able give the best results to guarantee good outcomes. Taking a logical objective view, one could carefully scrutinize the broad framework of the systems of practice to identify the essential components that might be common to the different groups which insist on their limited authorities. Since most of the groups are commanding many enthusiastic followers, there must be commonalities within all the groups in spite of the differences.

With this intension in mind one may identify basic common elements of physical activities in Yoga. They are: special physical postures and stretching exercises; special ways of breathing; and deep relaxation which develops into meditation. For the distinguished experienced expert, a great stress on Indian philosophy is also emphasized [7].

Looking at Qigong: special stretching physical activities with some special postures are also adopted; special ways of breathing are equally stressed, which again lead to deep relaxation and meditation. The philosophical background of Qigong practice is linked with Buddhism, Taoism and Confucianism [9].

Using modern physiological knowledge to conceptualize the special components of activity of both Yoga and Qigong one could link those activities to special stimulations related to

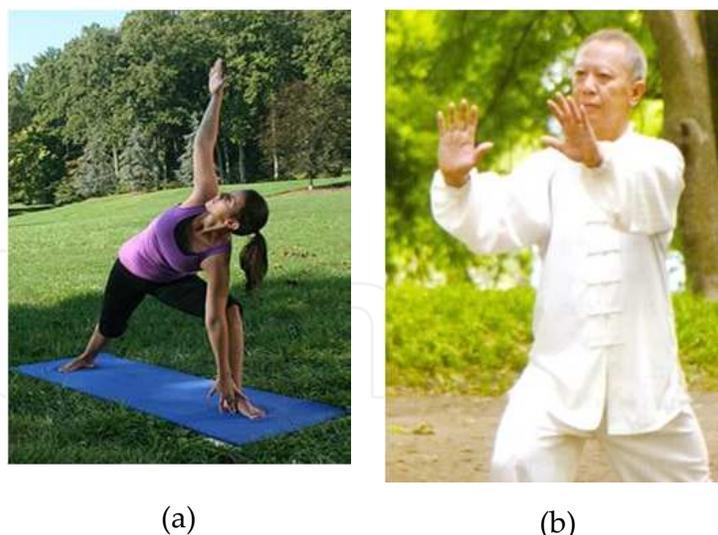
unique neurophysiologic pathways that are capable of bringing about a harmonious state between the somatic and the autonomic components of the neurological system [7].

What does stretching do? Stretching produces tension within the muscles, tendons, ligaments and the components around the joints. Stretching with selected postures produces tension on special groups of muscles, tendons, ligaments and joints that are normally more relaxed, under-used or never extensively used. Muscles, tendons, ligaments and joint capsules are provided with heavy distributions of proprioceptive receptors over their origins and insertions, so as to enable the detection of movements and subsequently, maintain good coordinations for the need of functional balance. When the proprioceptive receptors are stimulated, a concerted message is sent up the spinal cord to the mid-brain where cortical messages are converged. According to Melzack who invented the “Gate Theory”, the proprioceptive message at the mid-brain, will block off unwanted messages coming in from other brain regions, thus producing a “gate” effect against pain perception, and leading towards a balanced summation of neurological messages from various cortical sources. With every intentional stretch, additional proprioceptive messages are sent up. When muscle groups that are not normally active in day to day activities are activated, they send out massive unusual proprioceptive messages to the mid brain, thus initiating neurological activities pertaining to the “Gate Theory” [10]: a mechanism that blocks pain perception and harmonizes the two indifferent somatic and autonomic neurological systems.



**Figure 1.** Excavated document showing varieties of stretching exercises recommended over 2000 years ago in China.

What does controlled breathing do? Controlled breathing creates unusual motor activities within the respiratory cycles which are directed to follow a new pattern of activity. The modified rates, intensities and duration of inspiration and expiration, the different groups of muscles mobilized and involved, together compose a totally novel, unusual system of respiratory motor activities. Neurological messages received through these complex unusual motor activities are new to the higher central nervous system. The control of respiratory function is unique in that either the somatic motor system, which allows voluntary activities,



**Figure 2.** a. Stretching in Yoga practice b. Stretching in Qigong Practice

or the autonomic (parasympathetic) nervous system, which generates automatic regulatory activities of respiration, could be responsible. Intentional controlled breathing therefore is making use of the somatic motor activity to impose stimulations on the autonomic nervous system, which has wide connections with the internal organs. Intentional controlled breathing therefore opens up new channels of communication between the internal organs which otherwise stay independent of the body's voluntary control. These new channels of communication, could explain how Yoga and Qigong practices help to build up a state of physiological harmony through stretching and controlled breathing, and the subsequent feeling of tranquility [11, 12].

What does meditation do? No one is free from the somatic stimulations and cognitive, mental activities culminating into worries and mental disturbances. Busy daily activities may be causes of worries and anxiety. Worldly events straightforward or complicated, may also contribute towards sleep disturbances which seriously affect one's quality of life. Spiritual tranquility is very much adored by those affected. Priests, monks and Buddhists might have special means to achieve a special state of spiritual tranquility. What about ordinary people? Practicing Yoga and Qigong might allow individuals to acquire a mental state like the priest or monk. We have to make postulation according to some basic physiological phenomena so as to understand the mechanisms leading to meditation, when the brain is free from worldly concerns and worries.

The two essential activities that both Yoga and Qigong practice are slow repeated joint stretchings and controlled deep breathings. Joint stretchings initiate the "gate theory" which help to control pain perception. What does deep breathing do?

Normally, lung function, like the heart, the guts and endocrine system, are under the control of the autonomic nervous system. The individual does not need to give any instruction or control; the function of those organs would be automatically maintained. However, the respiratory system enjoys a double favour of either controlled or autonomous function. With

this special functional ability, forcing the respiratory processes through the voluntary channel should induce special physiological interactions. The forced inspiratory and extended expiratory movements connect the somatic and autonomic systems, which are normally independent from each other. The bridging effect is probably, a harmonizing process resembling the “gate theory”. The “gate” effect removes pain input. The forced respiratory activity removes or harmonizes unfavourable activities in the other autonomic organs. The harmonized situation would be felt somewhere in the brain reaching a state of tranquility, i.e. a vivid experience of “Meditation”. Yoga and Qigong, through the synchronized activities of stretching and forced respiratory training, induce a state of meditation, a supreme feeling of tranquility [9, 11, 12].

### **3. Physiological states**

Clinical researches in many institutes have gathered evidences on the effects of Yoga and Qigong on different physiological functions. Improvements in the basic parameters of respiratory functions have been demonstrated [13, 14]. Cardiac functions and related hypertension are also found to improve during the exercises and the effects persist afterwards in both Yoga and Qigong [15-17]. Changes in internal secretions i.e. endocrine adjustments are going along simultaneously with both Yoga and Qigong [18, 19]. The practice of both Yoga and Qigong, and their wide popularity are always linked with satisfactions related to improvements of musculoskeletal strength. Moreover, clear indications are available that muscle strengthening and pain alleviation could be a pleasant result in musculo-skeletal diseases [20, 21].

#### **3.1. Effects of Qigong on separate physiological functions**

##### *3.1.1. Qigong and musculoskeletal function*

Many carefully planned studies have been carried out to study Qigong’s direct effects on musculoskeletal function. One study was completed at the Beijing Sports University in 2004 on a group of people aged 50 to 70. After giving standard Qigong training, the physical fitness was assessed, compared with the pre-training states. Results showed that leg and hand grip strengths improved while body weight, pelvic girdle and fat thickness etc. did not change [14].

##### *3.1.2. Qigong and cardio-respiratory function*

The Beijing Sports University study also looked at the cardio pulmonary functions of the participants. The heart rates declined at all stages of Qigong training while the respiratory function improved towards the end of the training [14].

Another study done at Jiangxi University on 70 people, 61 to 68 years of age, given Qigong for six months, showed a general improvement of heart functions, measured with high resolution ultrasonic tools, manifested as stroke volume (SV), early and late diastolic velocities (VE and VA).

The results are shown in Table 1 indicating better stroke volume (SV) and early diastolic velocity (VE) in the trained group compared with the control group. VE-VA showed even a more convincing improvement [22].

	Control Group (n = 31)		Study Group (n = 39)	
	Before training	After six months' training	Before training	After six months' training
SV (ml)	57.94 ± 16.01	58.51 ± 16.99	55.72 ± 15.78	67.15 ± 13.67**#
VE (cm/s)	65.95 ± 19.95	66.30 ± 19.75	66.50 ± 18.24	75.05 ± 17.66**#
VA (cm/s)	84.36 ± 15.12	82.68 ± 14.10	83.02 ± 13.89	83.76 ± 15.21
VE-VA	-18.41 ± 23.98	-16.38 ± 24.68	-16.53 ± 25.96	-10.25 ± 23.32*

\*p<0.05; \*\*p<0.01 study group compared on before and after training; #p<0.05 study group compared with control group after six months training.

**Table 1.** Cardiac function before and after training [22].

### 3.1.3. Qigong and serological data

There is always doubt whether Qigong would affect endocrine functions which could be revealed from serological markers like cytokines and blood sugar. A study done at Beijing Guang-on-Mun Hospital on patients suffering from diabetes showed that after four months' practice not only was the blood sugar level better controlled but the quality of life also improved [23].

Another study done at Talien on patients with high serum triglycerides showed that 60 minutes of Qigong per day for six months, resulted in improvements in all the relevant biological markers [24, 25].

Positive results after Qigong training were also demonstrated among patients with osteoporosis, reflected in the parameters of bone metabolism, viz. serum alkaline phosphatase and bone mineral density.

### 3.1.4. Qigong and mental activities

Psychologists are interested to know the effects of Qigong exercises on mental activities like cognitive abilities, calculation speed, memory, imitations, making sketches and motor reactions. Experts in Jiangxi have directed studies on elderly people and found that the trained group did better than the untrained group [26, 27].

## 3.2. Effects of *Tai Chi* on physiological functions

### 3.2.1. *Tai Chi* and musculoskeletal problems

*Tai Chi* is the most popular training exercise in the Chinese Communities, particularly among the elderly people. *Tai Chi* may appear to be gentle, dancing, purely relaxing activities. In fact

*Tai Chi* demands the same practice of stretching, controlled breathing and meditation. Training and practices give general physiological supports, very much similar to Qigong. *Tai Chi* is particularly indicated for the rehabilitation of back injuries. One impressive study done in Shanxi for 64 patients suffering from work-related spinal degenerations and back pain showed that *Tai Chi* gave very positive benefits at different stages of training [28] (Table 2).

Group	No.	Male / Female	Recovered	Improved	No Improvement	Cure rate	Effectiveness (%)
4 weeks							
Control	32	20/12	2	27	3	6.3	90.6
Tai Chi	32	22/10	4	28	1	9.4	96.9
8 weeks							
Control	32	20/12	40	21	1	31.3	96.9
Tai Chi	32	22/10	18	14	0	56.3 <sup>a</sup>	100
12 weeks							
Control	32	20/12	22	10	0	68.8	100
Tai Chi	32	22/10	27	5	0	84.4 <sup>ab</sup>	100

<sup>a</sup> $p < 0.01$ ; <sup>b</sup> $p < 0.05$ .

**Table 2.** Treatment results in 4, 8, 12 weeks [28]

### 3.2.2. *Tai Chi* and balancing

The dynamic dancing movements of *Tai Chi* would naturally be excellent for the training of people who find difficulties maintaining a normal balance. A large scale study covering 421 people practicing *Tai Chi* regularly, comparing with another group not doing exercise showed marked differences in the single leg stance durability.

### 3.2.3. *Tai Chi* and cardio-pulmonary function

Many scientific reports on the benefits given by *Tai Chi* to cardio-pulmonary function are available. A study conducted in Fujian on middle age and elderly people before and after *Tai Chi* training showed that, after one year, cardiac function, stroke volume, stroke index, cardiac output, pulse rate, cardiac oxygen consumption volume and index, all improved [16] (Table 3).

Although the general mediating effects of exercises on hypertension are well recognized, whether aerobic or otherwise, *Tai Chi* might provide the most remarkable results, when practiced together with regular therapeutic treatment [31]. Some studies have also shown that those suffering from milder hypertension are responding better than the severe ones [32, 33].

Indice	1996	1997	Rate
PR (min)	76.18 ± 11.73	72.08 ± 9.18**	5.38
SV (ml)	81.14 ± 1.72	84.05 ± 16.86*	3.59
CO (L/min)	6.10 ± 1.05	6.42 ± 1.20*	5.29
SI (ml/m <sup>2</sup> )	53.15 ± 9.51	55.41 ± 7.52*	4.24
HOI	2629.74 ± 616.08	2517.58 ± 593.45*	4.27
HOV (ml/min)	43.82 ± 10.27	40.23 ± 6.94*	8.19

\* $p < 0.05$ , \*\* $p < 0.01$ .

**Table 3.** Changes in cardiac function [16].

Effects of *Tai Chi* are also shown in anti-oxidant studies. *Tai Chi* practices have been demonstrated to bring down tissue and serum anti-oxidants, viz. superoxide dismutase (SOD), glutathione peroxide (GSHPx), catalase (CAT) and malondialdehyde (MDA). It was also apparent that the longer the duration of *Tai Chi* practice, the more active were the anti-oxidant effects (Table 4) [34].

Markers	1-5 years		5-10 years		Over 10 years	
	n	x ± s	n	x ± s	n	x ± s
SOD (NU/ml)	37	78.28 ± 15.27	21	99.66 ± 13.16	13	104.1 ± 12.48
GSH-Px (U/ml)	36	58.08 ± 2.88	22	72.21 ± 11.52	13	77.79 ± 8.75
CAT (U/ml)	37	1.78 ± 0.20	21	2.02 ± 0.19	13	2.05 ± 0.14
MDA (nmol/ml)	29	4.54 ± 0.19	10	4.03 ± 0.39	8	3.62 ± 0.17

Differences all reaching  $p < 0.05$ .

**Table 4.** Relationship between different duration of *Tai Chi* practice [34].

### 3.2.4. *Tai Chi* and endocrine function

Gross deficiencies of endocrine function lead to well-known pathologies and disease entities. Mild subclinical deficiencies are the causes of declining physical strength and deteriorating health status, particularly affecting the elderly. The declining tendency with aging has been demonstrated in the evaluation of different hormonal levels in the blood, e.g. testosterone, estrogen, luteohormone, follicular stimulating hormone, thyroxine and thyroid stimulating hormone [Table 5]. *Tai Chi* exercises have been shown to alleviate some of the deficiencies [19].

Level	Serum Homone			P		
	Tai Chi Group (A)	Elderly Group (B)	Young Group (C)	A:B	B:C	A:C
F (ng/dl)	14.74 ± 4.73	15.23 ± 7.67	14.20 ± 3.92	> 0.05	> 0.05	> 0.05
TSH (μU/ml)	4.80 ± 3.05	3.80 ± 1.55	3.10 ± 1.15	< 0.05	> 0.05	< 0.05
T3 (ng/ml)	0.93 ± 0.20	0.84 ± 0.21	1.51 ± 0.31	< 0.05	< 0.01	< 0.05
T4 (ng/ml)	69.97 ± 23.87	73.60 ± 31.96	104.97 ± 38.60	> 0.05	< 0.05	< 0.01
rT3 (ng/ml)	30.26 ± 7.77	28.79 ± 4.96	37.22 ± 7.64	> 0.05	< 0.01	< 0.01
FSH (mIU/ml)	16.54 ± 15.16	11.05 ± 6.08	4.85 ± 1.58	< 0.05	< 0.01	< 0.01
LH (mIU/ml)	11.74 ± 13.19	8.03 ± 5.95	4.41 ± 1.31	> 0.05	< 0.01	< 0.05
T (ng/dl)	680.00 ± 430.00*	510.00 ± 151.00	679.00 ± 173.00**	< 0.05	< 0.01	> 0.05
E2 (pg/ml)	63.91 ± 17.14	54.74 ± 18.62 <sup>Δ</sup>	50.70 ± 7.14 <sup>ΔΔ</sup>	< 0.05	> 0.05	< 0.05
PRL (ng/ml)	7.06 ± 3.46	6.34 ± 2.75	8.25 ± 3.21	> 0.05	> 0.05	> 0.05

\*n = 50; \*\*n = 12; <sup>Δ</sup> n = 46; <sup>ΔΔ</sup> n = 10.

**Table 5.** Differences in serum hormone level [19].

### 3.2.5. *Tai Chi and general health*

General health could be reflected from the proneness to ailments of infective origin like common cold and/or influenza. Not only elderlies could be the victims but those suspected of being “low-resistant” against infections could be screened for immunologically related markers: the interleukins (IL’s) of which IL2 is probably the most important member which controls the survival of T cells, NK cells and B cells. It has been found that six months of *Tai Chi* exercises among a group of women, aged between 55 and 65, boost up the IL2 level significantly [35, 36].

### 3.2.6. *Tai Chi and mental health*

Like Qigong, *Tai Chi* tends to bring up the psychosocial adaptation ability of the practitioner. Using standard mental assessment Indices, tendencies of depression, anxiety and tension questionnaires, the effects of *Tai Chi* have been explored. Compared with non *Tai Chi* groups, advantages are well observed on the *Tai Chi* group [37].

## 3.3. Outlook of Yoga and Qigong practice on mental health

In the first place, both systems of physical training aim at the attainment of meditation i.e. mental serenity as the terminal stage of the self-disciplined exercises. Reaching the meditation level requires repeated practices and is subjectively felt by the individual. In the past decade Magnetic Resonance Studies carried out in different institutes have demonstrated that

functional activities in different regions of the brain could be affected by sustained postures, musculoskeletal stretches and controlled breathings. These observations are early objective indications of the neurological outcome of Yoga and Qigong [38].

With the complexity of Neuroanatomy and Neuro-Physiology, it might take decades to get nearer to the scientific depths of how Yoga or Qigong influences brain functions. At this stage, we only have clinical evidences from different parts of the world, about the clinical values of Yoga and Qigong on the maintenance of mental health, from prevention to treatment of anxiety disorders and depression.

### 3.4. Yoga

In 2005 a systematic review on the effects of Yoga on anxiety was completed in the University of West-minister, United Kingdom. Eight studies were reviewed. In spite of many inadequacies in the methodologies, it appeared that many cases of anxiety state benefited from Yoga, although specific recommendations could not be made [38].

The same group reviewed the effects of Yoga for depression in 2005. They analyzed five randomized controlled trials which all reported positive results although the study methodologies were not perfect [39].

A systematic review done in Australia in 2008 on the effectiveness of Yoga and self-help for anxiety disorders found that Yoga was superior to medications like diazepam [40].

Looking through many other reviews of different academic levels, one realizes the general trend of encouraging results, which may be summarized in the Table 6.

Many other solitary reports on the effects of Yoga on the Mental State of people suffering from different degrees of anxiety disorders are available. Exercise training alone has been proven clinically effective in major depression and panic disorders [46]. Yoga should also provide enhancing effects on standard treatments. Since those maintained on anti psychotic medications are more vulnerable to obesity, diabetes and heart diseases, Yoga would be particularly indicated [47, 48], especially for those who are not suitable for aerobic exercises.

Since the 1970's, meditation and other stress-reduction techniques are more and more frequently practised and studied as possible means of treatments for depression and anxiety. The practice of Yoga, which combines exercises with meditation, unfortunately has been underlooked. The Harvard Medical School Health Review reported that in the recent decades an increasing number of Yoga practices revealed that Yoga reduced the unfavourable influences of exaggerated stress responses, hence should be helpful for anxiety and depression, equivalent to other self-soothing techniques like therapeutic relaxation, meditation and socialization. Yoga also helped through easing respiration and reducing heart rate which were considered indicators of the bodily ability to response to stress [49]. The tolerability to pain was also increased. Another study at Harvard found that after practicing Yoga for three months, the women involved felt improvements in mental states related to stress, depression, anxiety and fatigue feeling. They also felt stronger and better. Quantitatively, there was a 50% improve-

Source of Study	Summary of Results
Arias 2006 [41] Systematic review USA	82 studies, 20 RCTs. The strongest evidence for efficacy was found for epilepsy, symptoms of premenstrual syndrome and menopausal symptoms. Benefit was also demonstrated for nonpsychotic mood and anxiety disorders, autoimmune illness, and emotional disturbance in neoplastic disease.
Krisanaprakorn kit 2006 [42] Systematic review Thailand	Only two studies eligible for inclusion. Anti-anxiety drugs were continued in both. The duration of trials ranged from 12 to 18 weeks. Transcendental Meditation showed a reduction in anxiety symptoms.
Lafferty 2006 [43] Systematic review USA	27 clinical trials investigating massage or mind-body interventions, 26 showed significant improvements in symptoms such as anxiety, emotional distress, comfort, nausea and pain, difficult to judge the clinical significance of the results.
Kirkwood 2005 [38] Systematic review UK	Eight studies all reported positive results, quality of studies was poor and no firm conclusions can be drawn.
Pilkington 2005 [39] Systematic review UK	Five RCTs found that overall, yoga interventions for depressive disorders were potentially beneficial; however, methodological limitations prevented drawing firm conclusions.
Astin 2003 [44] Systematic review USA	There was moderate evidence of efficacy for mind-body therapies in the areas of hypertension and arthritis.
Jorm 2004 [45] Review Australia	Review for anxiety disorders found the treatments with the best evidence of effectiveness were kava, exercise, relaxation training and bibliotherapy.

**Table 6.** Yoga and meditation for stress, anxiety, anxiety disorders mood disorders, sleep disorders and depression.

ment in depression score, 30% improvement in anxiety score and 65% overall well-being. Other psychosomatic complaints of headache, back pain and sleep disorders also resolved better [50].

A review on Yoga would not be qualified without screening reports from India herself. Indeed the majority of research publications on Yoga has been conducted by Indian investigators and published in Indian journals, although there are increasing contributors from US and England, and increasing applications of Yoga are included in the new specialty of mind-body medicine [46]. A study done in Bangalore India in 2000, comparing the antidepressant effects between Yoga, meditation with imipramine, and electro-convulsive therapy for melancholia, showed that significant reductions in the total score rating of depression occurred in all three groups. At week 3, the Yoga group scored higher than the electro-convulsive group but was not different from the medication group. Remission rates at the end of the trial were 93, 73 and 67% in the electro-convulsive, medication and Yoga groups respectively [50].

### 3.5. Qigong

As stated earlier, Qigong is composed mainly of three essential self-attained activities, viz., stretching across joints, controlled breathing and meditation. Which mechanisms are most important towards the accomplishments of a physiological harmony presenting as both

physical and mental well-being? Many theories have been postulated. One theory emphasizes on muscle relaxation, claiming that relaxation brings about improved blood circulation, better oxygen provision and removal of metabolic wastes. Another theory and limited experiments have shown the enhancement of the immunological defense. It is observed that relaxation, and controlled breathing could be giving the mind an effective training to relieve stress and pain. Other scientists have demonstrated changing hormonal levels in the blood during Qigong practice, while at the same time suppressing sympathetic output [51, 52].

With regard to research publications on Qigong, plentiful are available in Chinese language journals but the methodologies of studies are largely of low quality. The reports are mostly from sports related studies and analyses tend to be superficial.

A report from Wuhan, China, on the elderly practicing Qigong showed that 6 weeks' practice reduced anxiety and depression primarily felt by the individuals while cardiac and pulmonary functions also improved [51]. Another study completed in Shanxi in 2005 approached from the ancient Chinese philosophers' context, but whether Confucian or Taoist philosophical views are suitable for the interpretation of harmonizing observations remain controversial [52].

A controlled study was done in 2006 on 600 people practicing and not practicing Qigong. Those who had long experience were found to have more stable mental health [53].

A group of hospital workers in USA were given Qigong training for six weeks after which they were assessed using the Perceived Stress Scale together with the quality of life, questionnaire, using the SF36 questionnaire. The outcome was compared with another group of hospital workers not trained. The Qigong group demonstrated statistically significant reduction of perceived stress compared to the control group ( $p=0.02$ ) Greater improvement on the quality of life was also found in the Qigong group [54].

Medical Students who practiced Qigong for 12 weeks were studied on their mental adaptability: including depression, anxiety, aggressiveness, threat, stubbornness and social behaviors. 100 of them were compared with 50 others who did not practice Qigong. The practicing group showed significantly higher scores ( $p<0.01$ ) [55].

A detailed case study done in Sweden on the mood recovery of a woman who lost her job and became dreadfully distressed was most interesting. After practicing Qigong, the woman was found to continuously benefit from the exercises. Exercise behaviour was recorded daily, stress-energy and wellness were followed up weekly and mindfulness after 4, 9 and 12 weeks. The woman felt that her mental state was enjoying progressive stabilisation to high levels: she could better adapt to stressful situations and was less worried about unexpected mishappenings in life [56]. She believed firmly that Qigong was the main cause of her achievements.

Reports about mental health after Yoga and Qigong training on the whole, are giving rather vague ideas of the state of the mind. "Stable mental health" is often stated. To the experts on mental health, it means little because specific psychiatric symptoms are not described.

## 4. Conclusion

Exercises have long been known to be good and effective means of self-administered treatment, not only for physical strengthening but also in attempts to sooth the mind. Indeed, many past and current studies have given good evidences to the objective reasoning and physiological changes behind the simple practice. Practicing meditations under various artificial initiations, have attracted a lot of attention as an effective means of promoting mental health.

When Yoga and Qigong both require sustained stretching and controlled breathing, leading gradually into a state of meditation, the self-initiating activities could be triggering off combined or synergistic effects derived from different levels of neurological activities. Harvard University has conducted a survey on Yoga practitioners in 2008, and found that they were mainly people (woman more than men) who were suffering from musculoskeletal or mental disturbances. The survey indicated that 5.1% of US populations have used Yoga for health in the last 12 months, representing 10.4 million individuals. The data gives sufficient support for further recommendation on the popular use of the simple safe practice, so easily learned and adopted by all [57]. When Mayo Clinic staff made wide papaganda on exercises, using this slogan: "Depression and Anxiety: Exercises ease Symptoms" and giving clear explanations and instruction on Yoga, they were well accepted [58].

Given the great similarities between Yoga and Qigong, there might be a great justification for exploring the two systems of therapies together, when they are recommended as alternative treatments for a holistic body-mind resolution against health deterioration, declining physique, stress, anxiety and depression. Yoga or Qigong is a safe prescription for healthy living and provides a rich ground for harmonized human existence basing on the mind's self-regulatory processes against mental stresses. The two alternative therapies may control mental health disruptions like anxiety and depression, helping to maintain an ideal quality of life [59].

The author is neither an expert on Yoga nor Qigong. He is a clinician researching on Alternative Medicine as a supplementary support to mainline scientific allopathic medicine. He does practice Qigong and has studied Yoga superficially. He realizes Yoga and Qigong could both be excellent additional support for physical and mental health. While searching for literal evidences to illustrate the value of Yoga and Qigong for mental health, he found many convincing conceptual literature, superficial in the scientific sense, but well covers the breadth that is required for those interested to know more about Yoga and Qigong. Readers need not be disappointed with the lack of specific evidences on specific mental diseases, because Yoga and Qigong are meant to be supplementary, not replacing the conventional specialist treatment. Likewise, strict scientific data like hormones and transmitters might have been included in some of the reports, but however, for the general proof of concept, being too specific might lead to a different direction of treatment specific application which should not be encouraged.

For those interested to develop alternative medicine, some prefers moving towards specific focci of their major concern. As far as the author is concerned, he is more capable of simply taking a general approach with the sincere wish of bringing more medical workers to the awareness of the importances of supplementary role of alternative medicine.

The World Health Organization, in its deliberations on Traditional Medicine Strategy, is emphasizing the importance of “Self-care Health” as a most practical way of improving global health [60]. Yoga and Qigong are effective traditional means of self-practice, not only for the musculo-skeletal aspects, as could be readily seen, but also for the mind.

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