



<b>Title</b>	<b>Improving sustainability of cognitive-behavioral therapy (CBT) by complementary and alternative medicine approaches (CAM) on reducing workplace stress of teachers.</b>
<b>Author(s)</b>	<b>Cheung, WM; Huang, Y; Tsang, HWH</b>
<b>Citation</b>	<b>Journal of Pain &amp; Relief, 2016, S4, p. 001</b>
<b>Issued Date</b>	<b>2016</b>
<b>URL</b>	<b><a href="http://hdl.handle.net/10722/247093">http://hdl.handle.net/10722/247093</a></b>
<b>Rights</b>	<b>This work is licensed under a Creative Commons Attribution-NonCommercial-NoDerivatives 4.0 International License.</b>

## Improving Sustainability of Cognitive-Behavioral Therapy (CBT) by Complementary and Alternative Medicine Approaches (CAM) on Reducing Workplace Stress of Teachers

Wai Ming Cheung<sup>1</sup>, Yanli Huang<sup>1</sup> and Hector W. H. Tsang<sup>2\*</sup>

<sup>1</sup>Faculty of Education, The University of Hong Kong, Hong Kong

<sup>2</sup>Neuropsychiatric Rehabilitation Laboratory, Department of Rehabilitation Sciences, The Hong Kong Polytechnic University, Hong Kong

### Abstract

This article argues that the sustainability of cognitive behavioral therapy (CBT) may be improved by the addition of complementary and alternative medicine (CAM) approach in helping teachers reduce their workplace stress. This is demonstrated by two clinical trials testing the effectiveness of a multi-component stress management program with the concurrent use of CBT and CAM approaches developed in Hong Kong. The multi-component stress management is shown to be effective in reducing and relieving stress-related emotional or psychosomatic symptoms. Meanwhile, the self-administered CAM techniques may serve to sustain the effects produced by CBT approach. This has the advantage of saving the additional resources needed from intervention by trained professionals such as occupational therapists and psychologists. Implications and future directions are discussed.

**Keywords:** Stress; Teacher; Cognitive behavioral intervention; Complementary and alternative medicine; Sustainability

### Short Communication

Teaching, as a profession, is universally considered one of the most stressful occupations [1]. Multiple stressors for this occupation include time pressure, teaching workload, curriculum and examination demands, managing student behaviors, non-teaching duties, criticisms from supervisors and inspectors, and lack of recognition and support [2-5]. Work stress is manifested as negative psychological the situation in Hong Kong is even worse because of the frequent education and emotional responses resulting from a discrepancy between the demands and resources, needs, and capabilities [6], which may then trigger a cascade of adverse work outcomes including negative attitude to work, low work performance and teaching quality and hereby student achievements, high dropout rates [7-9], and emotional problems such as anxiety and depression [10,11]. In addition, stress-related psychosomatic symptoms may occur that consist of abnormal heart rhythms, persistent anxiety, bruxism, headache, insomnia and high blood pressure [4,12], and physical complaints such as tiredness, eye strain, sleep problems, voice disorder, headache, shoulder and neck pain, and lower back pain [13-15].

### Teaching profession in Hong Kong

Experienced enormous work-related stress with anxiety and depressive symptoms. For example, a telephone survey by Hong Kong Mood Disorder Center [HKMDC] [16] revealed that 15-20% of teachers in Hong Kong had anxiety and depressive symptoms due to vocational strain [17]. Hong Kong Professional Teachers' Union [18] reported 13.8% of teachers had anxiety disorder and did not have enough resources or relevant knowledge or skills to cope with these problems.

To help teachers in Hong Kong and around the world cope with their workplace weaken or even disappear once the active treatment was withdrawn. While clinical reforms since 2000 [15]. Local studies in Hong Kong revealed that many teachers stress, cognitive behavioral therapy (CBT) seems to be a reasonable option. CBT has been extensively examined and shown to be an effective behavioral therapy for an increasingly wider range of problems such as anxiety, depression, and panic disorders [19,20]. It aims to help people be aware

of and modify their distorted thinking and hereby develop positive thoughts and behaviors to cope with their psychological distress. However, a frequently raised criticism on CBT is its sustainability in maintaining the resulting desirable behaviors. Fernie, Kollmann, and Brown [21] reported that the outcome of CBT was unstable when compared with other therapies such as emotion focused therapy or relaxation training. Hollon, Thase, and Markowitz [22] suggested that the effects of psychological interventions would substantially weaken or even disappear once the active treatment was withdrawn. While clinical trials showed the limits of long-term effectiveness of CBT, it has at the same time been shown that its combination with other types of therapies would improve the sustainability of its effects and may prevent the relapse of the clinical condition [23].

### Improving sustainability of CBT

Complementary and alternative medicine (CAM) has become increasingly popular with more and more users in various professional areas in reducing stress-related physical and psychosomatic responses such as fatigue, sleep disorders, musculoskeletal pain, and mood disorders [24,25]. CAM is a group of approaches including biologically based practices making use of the nature substances (e.g., herbs, nutrition, vitamins, and dietary supplements), mind-body medicine enhancing the mind's capacity to affect bodily functions and symptoms e.g., meditation, biofeedback, relaxation, and guided imagery), manipulative and body-based practice (e.g., massage, chiropractic or osteopathic manipulation), and energy medicine employing the usage of energy fields (e.g., yoga, qigong, acupuncture, etc.) [26-29]. Clinical trials consistently reported positive effects in reducing stress-related effective because of the simultaneous focus on the both well-being and

**\*Corresponding author:** Professor Hector W. H. Tsang, Neuropsychiatric Rehabilitation Laboratory, Department of Rehabilitation Sciences, The Hong Kong Polytechnic University, Kowloon, Hong Kong, China, Tel: 852-2766-6750; Fax: 852-3150-8957; E-mail: [hector.tsang@polyu.edu.hk](mailto:hector.tsang@polyu.edu.hk)

**Received** June 10, 2016; **Accepted** June 17, 2016; **Published** June 20, 2016

**Citation:** Cheung WM, Huang Y, Tsang HWH (2013) Improving Sustainability of Cognitive-Behavioral Therapy (CBT) by Complementary and Alternative Medicine Approaches (CAM) on Reducing Workplace Stress of Teachers. J Pain Relief S4: 001. doi:[10.4172/2167-0846.S4-002](https://doi.org/10.4172/2167-0846.S4-002)

**Copyright:** © 2016 Cheung WM, et al. This is an open-access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.

behavioral trails showed the limits of long-term effectiveness of CBT, it has at the same time symptoms such as insomnia and musculoskeletal pain with the use of various CAM approaches [24,25]. A systematic review shows that CAM interventions are more effective because of the simultaneous focus on both well-being and behavioral training [30].

Given the limitation of CBT on optimizing and sustaining effects to make a long-term impact on clients [31], my Neuropsychiatric Rehabilitation Laboratory in Hong Kong intended to solve this problem by developing a stress management program using a combined approach of CBT and CAM to help teachers reduce or relieve their stress-related emotional or psychosomatic symptoms, and further improve their perceived well-being, teaching efficacy and job satisfaction. In our intervention, self-administered CAM techniques serve to sustain the effects of stress management and at the same time save the additional time for follow-up contacts between the teachers and the professional trainers [32,33]. Based on the model of stress process [34], individuals' stress comes from their appraisal of own capacities being inadequate to cope with the coming demands, and hereby triggering negative emotional responses. The combined approach breaks the stress formation pathway at two levels. First, CBT facilitates more benign appraisal of stress [12,35]; and second, CAM approach helps teachers ventilate and thus relieve the negative emotional and psychosomatic responses.

### Clinical trials in Hong Kong

Tsang et al. [33] conducted a quasi-experimental design study to develop and explore the effectiveness of this multi-component stress management program with concurrent use of CBT and CAM approaches. Results showed that, compared with the waitlist control group, elementary school teachers in Hong Kong in the CBT-CAM intervention group had significant reduction in depression, anxiety, and stress, providing the support to the multi-component stress management program in reducing and relieving stress-related symptoms of teacher.

With positive preliminary results, the team conducted another randomized controlled trial and compared the multi-component program using CBT and CAM combined approaches with CBT alone [32]. Participants in both the CBT-CAM and CBT only program showed reduced perceived stress level reduced psychosomatic symptoms after intervention. In addition, the CBT-CAM program improved some stress-related physical responses such as handgrip strength and resting heart rate. These findings have deepened our understanding on the causal link between physical function and psychosomatic health, such as the predictive role of lower hand grip strength in the persistence of depressive and/or anxiety disorders [36] and negative relationship between resting heart rate and emotional regulation [37]. As more reduction in physical responses was shown in the CBT-CAM group than CBT only group especially during the follow-up period where the active therapy in both more improvement in psychosomatic health and have larger and more sustainable groups was terminated, it is suggested that CBT-CAM intervention would facilitate effects in occupational stress management than CBT only intervention. As mentioned above, CBT intervention has questionable sustainable effects, especially when the active treatment period is completed unless there is continuous professional contacts with the participants during the follow up period [22,31]. The study by Au et al. [32] has demonstrated that the professional contacts needed for sustainable the positive outcomes elicited by traditional CBT may be replaced by self-administered CAM techniques. The obvious advantage is that these techniques do not require further professional input. The cost-effectiveness and cost-benefits of CBT are then much magnified given the high cost on intervention by

qualified professionals such as occupational therapists or psychologists. In conclusion, CBT in combination of CAM approach has the potential of improving the sustainability of the effects produced by CBT alone approach which may in turn save the additional manpower resources.

### Ways forward

The multi-component program using CBT and CAM utilized the fundamental aspect of the stress model and attempted to reduce stress using dual pathways. The first pathway is the cognitive appraisal of stress by the individual and at the same time the psychophysiological pathway of the manifestation of negative emotional and physical, emotional and psychosomatic symptoms among the teaching professionals. Meanwhile, it may produce more sustainable effects when compared with CBT alone. Nevertheless, it is at a preliminary stage of investigation which suggests that more attention should be directed towards this research direction of further improving long term effects of CBT by exploring different augmentation strategies such as CAM. To achieve this, more large-scale studies should be conducted with this multi-component stress management program to ascertain the external validity of its clinical effects. Second, it is suggested that further studies should explore the underlying psychological and biological mechanisms of the multi-component stress management program, especially the differential effects of different components of CBT and CAM. Finally, the relationship between physical, emotional, and psychosomatic symptoms and the CBT-CAM interventions should be clarified, hoping that this intervention may be modified and utilized in other kinds of professionals.

### References

1. Johnson S, Cooper C, Cartwright S, Donald I, Taylor P, et al. (2005) The experience of work-related stress across occupations. *Journal of Managerial Psychology* 20: 178-187.
2. Blase JJ (1986) A qualitative analysis of sources of teacher stress: Consequences for performance. *American Educational Research Journal* 23: 13-40.
3. Boyle GJ, Borg MG, Falzon JM, Baglioni AJ (1995) A structural model of the dimensions of teacher stress. *Br J Educ Psychol* 65 : 49-67.
4. Jin P, Yeung AS, Tang TO, Low R (2008) Identifying teachers at risk in Hong Kong: Psychosomatic symptoms and sources of stress. *J Psychosom Res* 65: 357-362.
5. Kokkinos CM (2007) Job stressors, personality and burnout in primary school teachers. *Br J Educ Psychol* 77: 229-243.
6. Montgomery C, Rupp AA (2005) A meta-analysis for exploring the diverse causes and effects of stress in teachers. *Canadian Journal of Education* 28: 458-486.
7. Macdonald D (1999) Teacher attrition: a review of literature. *Teaching and Teacher Education* 15: 835-848.
8. McLean L, McDonald Connor C (2015) Depressive symptoms in third-grade teachers: relations to classroom quality and student achievement. *Child Dev* 86: 945-954.
9. Milatz A, Lüftenegger M, Schober B (2015) Teachers' Relationship Closeness with Students as a Resource for Teacher Wellbeing: A Response Surface Analytical Approach. *Front Psychol* 6: 1949.
10. Keller MM, Chang ML, Becker ES, Goetz T, Frenzel AC (2014) Teachers' emotional experiences and exhaustion as predictors of emotional labor in the classroom: an experience sampling study. *Front Psychol* 5: 1442.
11. Kyriacou C (2001) Teacher stress: directions for future research. *Educational Review* 53: 27-35.
12. Leung SSK, Chiang VCL, Chui YY, Mak YW, Wong DFK (2011) A brief cognitive-behavioral stress management program for secondary school teachers. *Journal of Occupational Health* 53: 23-35.
13. Chong EY, Chan AH (2010) Subjective health complaints of teachers from primary and secondary schools in Hong Kong. *Int J Occup Saf Ergon* 16: 23-39.

14. Seibt R, Spitzer S, Druschke D, Scheuch K, Hinz A (2013) Predictors of mental health in female teachers. *Int J Occup Med Environ Health* 26: 856-869.
15. Education Commission (2000) Learning for life, learning through life: Reform proposals for the education system in Hong Kong. Hong Kong Special Administrative Region of the People's Republic of China, Hong Kong.
16. Hong Kong Mood Disorder Center (2004) Teachers' stress and mental health disorder.
17. Leung SSK, Mak YW, Chui YY, Chiang VCL, Lee ACK (2009) Occupational stress, mental health status and stress management behaviors among secondary school teachers in Hong Kong. *Health Education Journal* 68: 328-343.
18. Hong Kong Professional Teachers' Union (2008) Report of secondary and primary school teachers' stress and mental health conditions 2008.
19. Butler AC, Chapman JE, Forman EM, Beck AT (2006) The empirical status of cognitive-behavioral therapy: a review of meta-analyses. *Clin Psychol Rev* 26: 17-31.
20. Butler G, Fennell M, Hackmann A (2010) Cognitive-behavioral therapy for Anxiety disorders: Mastering clinical challenges. Guilford press, New York, NY
21. Fernie BA, Kollmann J, Brown RG (2015) Cognitive behavioural interventions for depression in chronic neurological conditions: a systematic review. *J Psychosom Res* 78: 411-419.
22. Hollon SD, Thase ME, Markowitz JC, (2002) Treatment and prevention of depression. *Psychological Science in the Public Interest* 3: 39-77.
23. Simons AD, Levine JL, Lustman PJ, Murphy GE (1984) Patient attrition in a comparative outcome study of depression. A follow-up report. *J Affect Disord* 6: 163-173.
24. Raman G, Zhang Y, Minichiello V, D'Ambrosio C, Wang C (2013) Tai Chi improves sleep quality in healthy adults and patients with chronic conditions: a systematic review and meta-analysis. *J Sleep Disorders Ther* 2: 1000141.
25. Sarris J, Byrne GJ (2011) A systematic review of insomnia and complementary medicine. *Sleep Med Rev* 15: 99-106.
26. Lin YC (2015) Usage of complementary and alternative medicine in pediatric sedation. In P. K. Mason (Ed.), *Pediatric Sedation Outside of the Operating Room: A Multispecialty International Collaboration* pp: 633-641
27. Mason KP (2012) *Pediatric sedation outside of the operating room: A multispecialty international collaboration*. Springer, New York, NY.
28. Matsubara T, Arai YCP, Shiro Y, Shimo K, Nishihara M, et al. (2011) Comparative effects of acupressure at local and distal acupuncture points on pain conditions and autonomic function in females with chronic neck pain. *Evidence - Based Complementary and Alternative Medicine* 2011: 543291
29. Tsang HW, Chan EP, Cheung WM (2008) Effects of mindful and non-mindful exercises on people with depression: a systematic review. *Br J Clin Psychol* 47: 303-322.
30. Singer GHS, Ethridge BL, Aldana SI (2007) Primary and secondary effects of parenting and stress management interventions for parents of children with developmental disabilities: A meta-analysis. *Mental Retardation & Developmental Disabilities Research Reviews* 13: 357-369.
31. Farrand P, Woodford J (2013) Impact of support on the effectiveness of written cognitive behavioural self-help: a systematic review and meta-analysis of randomised controlled trials. *Clin Psychol Rev* 33: 182-195.
32. Au DWH, Tsang HWH, Lee JLC, Leung CHT, Lo JYT, et al. (2016) Psychosomatic and physical responses to a multi-component stress management program among teaching professionals: A randomized study of cognitive behavioral intervention (CB) with complementary and alternative medicine (CAM) approach. *Behaviour Research and Therapy* 80: 10-16.
33. Tsang HW, Cheung WM, Chan AH, Fung KM, Leung AY, et al. (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.
34. Cohen S, Kessler RC, Gordon LU (1997) *Measuring stress: A guide for health and social scientists*. Oxford University Press, New York.
35. Shimazu A, Okada Y, Sakamoto M, Miura M (2003) Effects of stress management program for teachers in Japan: a pilot study. *J Occup Health* 45: 202-208.
36. van Milligen BA, Vogelzangs N, Smit JH, Penninx BW (2012) Physical function as predictor for the persistence of depressive and anxiety disorders. *J Affect Disord* 136: 828-832.
37. Williams DP, Cash C, Rankin C, Bernardi A, Koenig J, et al. (2015) Resting heart rate variability predicts self-reported difficulties in emotion regulation: a focus on different facets of emotion regulation. *Front Psychol* 6: 261.

**Citation:** Cheung WM, Huang Y, Tsang HWH (2013) Improving Sustainability of Cognitive-Behavioral Therapy (CBT) by Complementary and Alternative Medicine Approaches (CAM) on Reducing Workplace Stress of Teachers. *J Pain Relief* S4: 001. doi:[10.4172/2167-0846.S4-002](https://doi.org/10.4172/2167-0846.S4-002)

This article was originally published in a special issue, **Surgical management of pain** handled by Editor(s). Angelo Lavano, Italy

### OMICS International: Publication Benefits & Features

#### Unique features:

- Increased global visibility of articles through worldwide distribution and indexing
- Showcasing recent research output in a timely and updated manner
- Special issues on the current trends of scientific research

#### Special features:

- 700+ Open Access Journals
- 50,000+ Editorial team
- Rapid review process
- Quality and quick editorial, review and publication processing
- Indexing at major indexing services
- Sharing Option: Social Networking Enabled
- Authors, Reviewers and Editors rewarded with online Scientific Credits
- Better discount for your subsequent articles

Submit your manuscript at: [www.omicsonline.org/submit](http://www.omicsonline.org/submit)