

SMET
(Self-Management of Excessive Tension)
FOR
HEALTH AND WELLBEING



Submitted by

“S-VYASA YOGA UNIVERSITY”

(Swami Vivekananda Yoga Anusandhana Samsthana)

19, Eknath Bhavan, Gavipuram Circle, K G Nagar, Bangalore-560 019

Telephone: 080-2263 9957/ 9960, 2661 2669; Fax: 080-26608645

E-mail: rabindra48@gmail.com

www.svyasa.org

Title of the Proposal

SMET PROGRAM FOR HEALTH AND WELLBEING

BACKGROUND

Health care costs are rising. In the long run, implementing a wellness program in corporate culture will decrease the company's health care costs.

Research indicates that nearly 70% of health care costs are from common illnesses related to high blood pressure, overweight, and lack of exercise, high cholesterol, stress, poor nutrition, and other preventable health issues (Hall, 2006). Health care costs are a major expense for most businesses, and they do not reflect costs due to the loss of productivity or absenteeism. Human capital in an organization is the most important asset and it is essential for the organization to help its human resources realize their potential for performing any job. A wellness program would address most, if not all, of these health care issues and related costs.

At work employees face numerous psychological stressors that can undermine their work performance. These stressors, stemming from a variety of possible causes, have enormous health and financial impacts on employees as well as employers. Stress has been shown to be one of the factors leading to musculo-skeletal disorders (MSDs) such as: include back pain, carpal tunnel syndrome, shoulder or neck tension, eye strain, or headaches.

Many researchers support worksite physical activity programs to increase the level of physical activity and to reduce the risk of musculoskeletal disorders (Proper, 2003).

YOGA, HEALTH AND WORK WELLNESS

Yoga is way of life. Yoga includes practices such as physical postures, regulated breathing, and meditation, among other techniques (Taimini, 1986).

Meditation has been shown to reduce stress and increase feelings of peace and calm (Oman, 2008). This suggests several applications and possible benefits related to practicing meditation. One of them is possibly an improvement in sleep which is one of the biggest problems among executives.

Yoga is an ancient form of exercise that can reduce stress and relieve muscular tension or pain. Practicing yoga at the workplace teaches employees to use relaxation techniques to reduce stress and risks of injury on the job. Yoga at the workplace is a convenient and practical outlet that improves work performance by relieving tension and job stress (Gura, 2002).

There are many studies which has shown yoga as a preventive tool for working executives. In a study done by Cowen in the year 2010 exploring the benefits of yoga on functional fitness, flexibility, and perceived stress quasi-experimental design was used to measure benefits of yoga in sample of firefighters from a major metropolitan fire department. Yoga classes were conducted on-shift, in the fire stations over the period of 6 weeks. The classes included pranayama (breathing), asana (postures), and savasana (relaxation); 108 firefighters enrolled in the study, most were physically active but had no prior experience with yoga. Baseline and post-yoga assessments were completed by 77 participants. There was significant improvement in the Functional Movement Screen, a seven item test that measure functional fitness. Improvements were also noted in trunk flexibility and perceived stress. Participants also reported favorable perceptions of yoga: feeling more focused and less musculoskeletal pain (Proper, 2003).

Self-Management of Excessive Tension

Chronic work-related stress is a significant and independent risk factor for cardiovascular and metabolic diseases and associated mortality, particularly when compounded by a sedentary work environment. Work related psychosocial stressors are known to affect the body functions through psychological processes, and influence health through four types of closely interrelated mechanisms-emotional, cognitive, behavioral, and physiological (Levi, 1990). The health outcome depends on situational (e.g., social support) and individual factors (e.g., personality, coping repertoire). Heart rate variability (HRV) provides an estimate of parasympathetic and sympathetic autonomic control, and can serve as a marker of physiological stress. Keeping this idea Vempati and Telles evaluated the physiological changes of a yoga based stress management program for 26 a symptomatic, male, middle managers in the year of 2000 and found subjects with high occupational stress scores at baseline appeared to be more likely to show reduced sympathetic activity after the two days program. The results suggest that following two-day yoga based stress management program subjects with higher levels of occupational stress felt relaxed and attained relaxation at optimum level.

Increasing rates of psychosocial disturbances give rise to increased risks and vulnerability for a wide variety of stress-related chronic pain and other illnesses. Relaxation exercises offer a means to reduce the physiological and psychological reactions to stress. One of the widely used relaxation practices is yoga and yogic breathing exercises. To understand this Kjellgren and his team demonstrate in 2007 and found that adult participants of normal health can improve their wellness by learning and applying a program based on yoga and yogic breathing exercises. (Anette, 2007).

BACKGROUND OF CYCLIC MEDITATION

Meditation in fact, is the seventh out of eight steps prescribed to reach an ultimate stage of spiritual emancipation (Patanjali, *circa* 900 B.C.). While many practitioners do learn meditation directly, others find it easier to pass first through the other stages, learning yoga postures (*asanas*) and regulated breathing (*pranayamas*). It is postulated that when a novice attempts to meditate directly, there could be two responses based on the quality of the mind viz., (i) a *rajasic* – active (personality) mind would be restless all through the session and (ii) a *tamasic* – a mind with inertia could fall asleep. This problem of the mind is addressed in the *Mandukya Upanishad*. Based on this a technique of ‘moving meditation’, which combines the practice of yoga postures with guided meditation was evolved, called cyclic meditation (CM), by H.R. Nagendra, Ph.D., which has its’ origin in an ancient Indian text, *Mandukya Upanishad*.^[5] It is interesting to note that CM does induce a quiet state of mind, which is compatible with the description of meditation (*dhyana* or effortless expansion), according to Patanjali. This description states that ‘*Tatra pratyayaikatanata dhyanam*’ (Patanjali’s *Yoga Sutras*, Chapter 3: Verse 2). This means that the uninterrupted flow of the mind towards the object chosen for meditation is *dhyana*.^[4] Indeed, all meditations, irrespective of the strategies involved are believed to help reach this state. There are several strategies in meditation. These include breath awareness, awareness of internal sensations, directing the attention to a *mantra* or a *koan*, and keeping the eyes open with the gaze fixed on the object of meditation, among other methods.

The verse on which CM is based, states: ‘In a state of mental inactivity awaken the mind; when agitated, calm it; between these two states realize the possible abilities of the mind. If the mind has reached a state of perfect equilibrium then do not disturb it again’. The underlying idea is that, for most persons, the mental state is routinely somewhere between

Self-Management of Excessive Tension

the extremes of being 'inactive' or of being 'agitated' and hence to reach a balanced, relaxed state the most suitable technique would be one which combines 'awakening' and 'calming' practices.

In Cyclic Meditation, the period of practicing yoga postures constitutes the 'awakening' practices, whereas periods of supine rest comprised of the 'calming practices'. An essential part of the practice of Cyclic Meditation is being aware of sensations arising in the body (Nagendra, 1997). This supports the idea that a combination of stimulating and calming techniques practiced with a background of relaxation and awareness (during CM) may reduce psychophysiological arousal more than resting in a supine posture for the same duration. The practice of CM, includes yoga postures (*asanas*) which involve muscle stretching and this has diverse benefits. The effects, benefits and possible mechanisms underlying CM are given below.

SCIENTIFIC STUDIES ON CYCLIC MEDITATION (CM)

The studies described below were all carried out at the Swami Vivekananda Yoga Research Foundation, Bangalore, India, where the technique was devised.

Studies on autonomic and respiratory variables

In a previous study heart rate variability (HRV) was studied in forty-two male volunteers in cyclic meditation (CM) and supine rest (SR) sessions. The high frequency (HF) power of the HRV increased during both CM and SR practice, which is considered to suggest increased vagal tone (Sarang, 2006). However, there was a marginally greater increase during CM (4.4 percent) compared to during SR (1.0 percent). In the same study the low frequency (LF) power which is believed to correlate with sympathetic activity was significantly less during both CM (1.8 percent decrease) and SR (0.3 percent decrease). The

Self-Management of Excessive Tension

study showed parasympathetic dominance. The exact mechanism underlying the effect of CM on the autonomic nervous system is difficult to determine. The effect may be brought about by reduced cortical activity, which in turn may modify the activity at the level of the hypothalamus.

An earlier study on thirty-five male volunteers (ages between 20-46 yrs) showed a significant decrease in oxygen consumption and increase in breath volume were recorded after guided relaxation practiced for 10 minutes compared to the equal duration of supine rest. During guided relaxation the power of the LF component of the heart-rate variability spectrum reduced, whereas the power of the HF component increased, suggesting reduced sympathetic activity (Vempati, 2002). However, another study on forty-male volunteers (ages 16 to 46 yrs) showed that Isometric relaxation technique practiced for a minute showed that there was a reduction in the physiological signs of anxiety and stress (Vampati, 1999) .

More recently, a study on thirty-male volunteers (ages ranging from 20 to 33 years) showed a decrease in heart rate (HR), low frequency power (LF power), LF/HF ratio, and an increase in the number of pairs of Normal to Normal RR intervals differing by more than 50 ms divided by total number of all NN intervals (pNN50) following the practice of cyclic meditation (CM) suggestive of a shift towards sympatho-vagal balance in favor of parasympathetic dominance during sleep (Patra, 2009).

Studies on applications in reducing occupational stress levels

In a subsequent study correlating CM and heart rate variability, a two-day CM program decreased occupational stress levels and baseline autonomic arousal in twenty-six asymptomatic, male, middle managers (Vempati, 2000). Hence, suggesting significant reduction in sympathetic activity. The mechanisms underlying the decrease in occupational

Self-Management of Excessive Tension

stress levels may be related to decreased autonomic arousal (sympathetic activation) as well as psychological factors, though this remains a speculation.

Studies on metabolism & oxygen consumption

An earlier study on oxygen consumption showed that a period of cyclic meditation significantly reduced the oxygen consumption to a greater degree (32.1%) than a comparable period of supine rest (Telles, 2000). Recent study also showed that after the practice of CM oxygen consumption decreased (19.3 percent) compared to following SR (4.8 percent). Also, the change in oxygen consumption suggested that after the practices (but not during) there was a period of physiological relaxation which was more after CM compared to SR (Sarang, 2006). The energy expenditure (EE), respiratory exchange ratio (RER) and heart rate (HR) of 50 male volunteers were assessed before, during, and after the sessions of CM and sessions of supine rest. CM reduced the energy expenditure more than supine rest alone (Sarang, 2006). The studies cited above were conducted using the self-as-control design. The reason why the practice of CM reduces oxygen consumption could be related to decreased oxygen consumption of the brain and the skeletal muscles (which are probably more relaxed with the practice of CM).

Studies on attention and electrophysiology

Earlier studies showed that, despite the changes suggestive of parasympathetic dominance following CM, there was a decrease in the P300 peak latency and an increase in the P300 peak amplitude when the P300 was obtained using an auditory oddball paradigm (Sarang, 2006). The P300 component of event-related brain potentials (ERPs) is generated when persons attend to and discriminate stimuli which differ in a single aspect. More recently, middle latency auditory evoked potentials (0-100ms range) were examined in forty-seven male volunteers before and after the practice of CM, which has resulted in

Self-Management of Excessive Tension

prolonged latencies of evoked potentials generated within the cerebral cortex, supporting the idea of cortical inhibition after CM (Subramanya, 2009). The studies cited above were conducted using the self-as-control design. The mechanism by which CM may improving attention while reducing sympathetic tone may be related to increased proprioceptive input (during the practice of *asanas*) to the Reticular Activating System (RAS), which in turn keeps cortical areas receptive and active (Kandel, 2000). This is difficult to understand as generally increased alertness and vigilance is associated with an increase in sympathetic tone.

Studies on performance in a cancellation task

In a previous study the effect of CM practice on the performance in a letter cancellation task, was assessed in sixty-nine male volunteers (whose ages ranged from 18 to 48 years) (Sarang, 2007). There was improved performance in the task which required selective attention, concentration, visual scanning abilities, and a repetitive motor response following CM. The results were interpreted to suggest that the improved performance after CM suggests that the practice not only globally enhances performance but also selectively reduces the probability of being distracted. Again it is difficult to understand how CM practice which is associated with reduced sympathetic activity, increases the performance in an attention task. As described above this may be via increased proprioceptive input to the Reticular Activating System.

A study on memory and anxiety

In a recent study, on fifty-seven male volunteers (group average age \pm S.D., 26.6 \pm 4.5 years) the immediate effect of CM and SR were studied on memory and state anxiety. A cyclical combination of yoga postures and supine rest in CM improved memory scores immediately after the practice and decreased state anxiety more than rest in a classical yoga

Self-Management of Excessive Tension

relaxation posture (*shavasana*) (Subramanya, 2009). Like the P300 event-related potential and the letter cancellation task, performance in the memory task requires increased alertness. The mechanism (as described above) remains speculative.

A Study on polysomnography

In a recent study, whole night polysomnography measures and the self-rating of sleep were assessed on the night following a day in which thirty-male volunteers practiced CM twice (approximately 22:30 minutes each time). This was compared to another night when they had two, equal duration sessions of supine rest (SR) on the preceding day. In the night following CM practice the percentage of slow wave sleep (SWS) was significantly more than the night following SR, whereas the percentage of rapid eye movement (REM) sleep and the number of awakenings per hour were less. The practice of CM during the day time has been shown to increase the percentage of slow wave sleep in the subsequent night (Patra, 2009). CM has a number of components which may facilitate sleep, such as increased physical activity, muscle stretching, interoception, and guided relaxation.

CYCLIC MEDITATION IN A NUTSHELL

SMET stands for Self Management of Excessive Tension.

It is a simple and easy technique to practice based on traditional concept of yoga for improving both internal and external well being of an individual. It is specially suited to the modern day executives, professionals, management experts, housewives and others. SMET is a technique in which Stimulation - Relaxation technique is interspersed and an aspirant finds it easy in comparison with other practices of Yoga.

AIM AND OBJECTIVES OF SMET

- Enhancing the efficiency of staff involved in management and other stream
- Promoting health and wellbeing through Yoga
- Recovering and managing various physical and mental ailments through specific Yoga techniques.
- Improving the skills and equipoise in action by developing concentration and absolute focus towards work through various Yoga techniques.

ADVANTAGES OF ATTENDING SMET PROGRAM

The methodology has been formulated after years of in-depth study and research into actual case histories by highly qualified doctors and yoga experts. The program is conducted as a two day, Residential / Non-Residential theory cum practice package.

In a very short span of time, the programme helps to acquire the power to perform better, free from stress - relaxed and balanced way.

The programme ushers in a new era in that, it brings about a TURN AROUND in the participant's outlook, both official and personal and propels him along the path of progress towards Efficiency, Physical & mental equipoise. SMET improves the sharpness of the mind which is the decision making machinery, by inculcating techniques that help one to go to deeper and subtler levels of consciousness and gain mastery over the mind. It helps to provide the much needed - but denied unwittingly - relaxation to the body-mind complex and to break the shackles of baser thoughts besides elevating one to unlimited expansiveness of understanding.

By SMET it has been found to reduce BMR (Basal Metabolic Rate) working with a fresh body and mind by managing time better.