PRACTICE

An Introduction to Kundalini Yoga Meditation Techniques That Are Specific for the Treatment of Psychiatric Disorders

DAVID S. SHANNAHOFF-KHALSA

ABSTRACT

The ancient system of Kundalini yoga includes a vast array of meditation techniques and many were discovered to be specific for treating the psychiatric disorders as we know them today. One such technique was found to be specific for treating obsessive-compulsive disorder (OCD), the fourth most common psychiatric disorder, and the tenth most disabling disorder worldwide. Two published clinical trials are described here for treating OCD using a specific Kundalini yoga protocol. This OCD protocol also includes techniques that are useful for a wide range of anxiety disorders, as well as a technique specific for learning to manage fear, one for tranquilizing an angry mind, one for meeting mental challenges, and one for turning negative thoughts into positive thoughts. Part of that protocol is included here and published in detail elsewhere. In addition, a number of other disorder-specific meditation techniques are included here to help bring these tools to the attention of the medical and scientific community. These techniques are specific for phobias, addictive and substance abuse disorders, major depressive disorders, dyslexia, grief, insomnia and other sleep disorders.

INTRODUCTION

This paper refers to the system of Kundalini yoga as taught by Yogi Bhajan, a living master of Kundalini yoga, Hatha yoga, and White Tantric yoga. In December 1968, Yogi Bhajan left India to come to the West to teach what he had learned to those with a spiritual hunger, an interest to explore altered states of consciousness without drugs, and to help implement novel treatment modalities for health care and the enhancement of life. When he arrived he stated his mission: "I have come to create teachers, not to gather disciples." Determined to train leaders and teachers with the power to heal, uplift, and inspire humanity, he taught Kundalini yoga openly to the public, breaking the tradition of secrecy that had surrounded it for thousands of years (Bhajan, 1997). Since that time he has taught nearly 5000 different meditation techniques, of which many have

been taught that were known by yogis to be specific for distinct psychiatric disorders. These disorders as we know them today have no doubt been common to humanity since the origin of the species.

This author first began to learn Kundalini yoga in 1974, and during his early training as a Kundalini yoga teacher, in addition to numerous other meditation techniques, he learned a Kundalini yoga breathing meditation technique specific for the treatment of obsessive-compulsive disorder (OCD). This technique was first published in a scientific text in 1991 (Shannahoff-Khalsa, 1991). In that text Kundalini yoga meditation techniques were also taught that were specific for treating anxiety, fatigue, stimulating the immune system for treating solid tumors, expanding and integrating the mind, developing a comprehensive, comparative and intuitive mind, and one for regenerating the central nervous system. In 1992, the author had his first opportunity to at-

The Research Group for Mind-Body Dynamics, Institute for Nonlinear Science, University of California, San Diego, La Jolla, CA, and The Khalsa Foundation for Medical Science, Del Mar, California.

tempt treatment of individuals with OCD in an open nonplacebo-controlled clinical trial. This trial led to funding by the Office of Alternative Medicine at the National Institutes of Health for conducting a randomized controlled partially double-blinded trial comparing this Kundalini yoga protocol against a group using two common meditation techniques. These trials are described below.

In addition, techniques are included (after the material on OCD) for treating addictive disorders, depression, grief, learning disorders, phobias, and sleep disorders, respectively. However, the latter techniques have not yet been submitted to controlled clinical trials, but have been used by yogis for thousands of years for treating the respective disorders. Also, the author has anecdotal evidence of their efficacy. Nonetheless, there is a strong calling for rigorous controlled clinical trials to test validity.

THE TREATMENT OF OCD

OCD is one of the most disabling of the anxiety disorders and is likened to a "waking nightmare" (Rapaport, 1990). Rasmussen and Eisen (1990) state that OCD has a lifelong prognosis and is the fourth most common psychiatric disorder after phobias, substance abuse, and the major depressive disorders, and is twice as common as schizophrenia and panic disorder. OCD often begins during childhood or adolescence and has a lifetime prevalence rate of 2.5%–5.0% (Rasmussen and Eisen, 1990). According to Murray and Lopez (1996), OCD is also among the top 10 causes of disability worldwide. OCD is not responsive to traditional insight-oriented psychotherapy (Jenike, 1990) and is considered to be one of the most difficult psychiatric disorders to treat.

The conventional treatment modalities are psychopharmacologic and cognitive behavior therapy (CBT) in the form of exposure and response prevention. Unfortunately, neither offers quick relief to reduce the anxiety-provoking obsessions and compulsions that are the troubling marker of OCD. While OCD is classified as an anxiety disorder, its rate of symptomatic response to medication is much slower than other anxiety-related disorders. In addition, "40%-60% of patients exhibit only minimal improvement or no change with serotonin re-uptake inhibitors alone (Goodman et al., 1992)," and "as many as one third are unimproved after apparently adequate drug treatment (Goodman et al., 1992)," yielding the "drug treatment resistant patient." In responders, medication produces "only a 30%-60% symptom reduction and patients tend to remain chronically symptomatic to some degree despite the best of pharmacologic interventions (Jenike, 1992)," and a "20%-35% decrease in mean Yale-Brown Obsessive Compulsive Scale (Y-BOCS) scores may represent a clinically meaningful change in symptom severity, clearly leaving room for improvement (Goodman et al., 1992)." When medications work they usually take approximately 2–4 weeks to begin to show improvement, and CBT can take even longer. One advantage of CBT over medication is that the results last much longer once discontinued (Hembree et al., 2003). Discontinuation of pharmacologic treatment is, however, almost always associated with a complete relapse (Cheslow et al., 1991; Fontaine and Chouinard, 1989; Pato et al., 1988). When patients are remitted on medications and stop using them, their symptoms almost always revert to their original severity. However, Kundalini yoga can be used to produce both quick temporary relief as well as long-term improvement and remission. A case study of quick temporary relief is presented in Shannahoff-Khalsa (2003a) along with a review of prior Kundalini yoga trials.

Two year-long clinical trials have been conducted to test the efficacy of Kundalini yoga meditation techniques for the treatment of OCD. The first trial was an open uncontrolled pilot (Shannahoff-Khalsa and Beckett, 1996), and the second was a randomized controlled trial (Shannahoff-Khalsa, 1997, 2003a, 2003b; Shannahoff-Khalsa et al., 1999). The first trial was conducted in an attempt to test a technique that was claimed by yogis to be specific for the treatment of OCD (Shannahoff-Khalsa, 1991). The second trial was conducted to include a comparison meditation group using the well-studied Relaxation Response technique (Benson, 1975) along with the Mindfulness Meditation technique (Kabat-Zinn, 1990) for 30 minutes each to approximate the time for the Kundalini yoga protocol, to in part control for the expectations of "meditation" per se and for the effects of personal attention by a therapist in a group setting.

THE PILOT STUDY: AN OPEN UNCONTROLLED TRIAL

In a small uncontrolled trial (Shannahoff-Khalsa and Beckett, 1996), in which five of eight patients completed a 12-month trial, the group showed a mean Y-BOCS improvement of 55.6% going from a total score of 19.8 at baseline to 8.8 at 12 months. The Symptom Checklist-90-Revised (SCL-90-R) (Derogatis, 1993), Obsessive Compulsive (OC) scale, and Global Severity Index (GSI) showed mean improvements of 53.3% and 52.7%, respectively, for the five completers. These five were all previously stabilized with fluoxetine (20-40 mg) for longer than 3 months prior to the start of the study. Of the five, three were completely free of medication for at least 5 months prior to the end of the 12month study and the other two were significantly reduced by 50%. One year later, four of the five subjects had been off medication for periods between 9 and 19 months with lasting improvement. The three who had dropped out early were all unmedicated and had each completed the first 3month mark for therapy. Their Y-BOCS totals went from a mean of 23.3 to 19.6. While these findings of sustained and clinically significant improvement in the five "completers"

were obtained in an uncontrolled meditation trial, placebo effects with OCD patients are usually low. A 3%–13% placebo effect was observed in a clomipramine-placebo double-blinded controlled study (Griest et al., 1990). A more recent multicenter double-blinded placebo-controlled fluvoxamine study showed a 17.5% Y-BOCS improvement for the drug and a 7% placebo improvement (Goodman et al., 1996). Therefore, a randomized-controlled clinical trial (RCT) comparing to another meditation protocol was necessary to determine efficacy.

A RANDOMIZED BLINDED CONTROLLED MATCHED TRIAL

Two groups were randomized for gender, age, Y-BOCS severity ratings, and medication status, and blinded to the comparison protocol for a 12-month trial. Patients were told at the initial interview that two different meditation protocols would be compared and that the trial would run 12 months unless one protocol proved to be more efficacious, then groups would merge for 12 additional months using the more efficacious protocol. At baseline, group 1 (Y-BOCS = 22.75) consisted of 11 adults and 1 adolescent and group 2 (Y-BOCS = 22.80) included 10 adults. Group 1 used the Kundalini yoga meditation protocol (Shannahoff-Khalsa, 1997) and group 2 used the Relaxation Response plus Mindfulness Meditation technique, each for 30 minutes to compare for time requirements with the Kundalini yoga protocol. Six psychologic rating scales were used at 0-month baseline and all 3-month time points: Y-BOCS; SCL-90-R OC; SCL-90-R GSI; Profile of Mood States (POMS, Total Mood Disorder score; McNair et al., 1992); Perceived Stress Scale (PSS; Cohen et al., 1983); and Purpose-in-Life test (PIL; Crumbaugh and Maholick, 1976).

Seven adults in each group completed 3 months of therapy. Group 1 (Kundalini yoga) demonstrated greater and statistically significant improvements on the Y-BOCS, SCL-90-R OC and GSI Scales, POMS, and nonsignificant but greater improvements on the PSS and PIL scales. An intentto-treat analysis (Y-BOCS) for the baseline and 3-month tests showed that only group 1 improved. Within-group statistics showed that group 1 significantly improved on all six scales, but group 2 (Relaxation Response plus Mindfulness Meditation) had no improvements. Group 1 improved 38.4%, going from a Y-BOCS total score of 24.6 to 15.1 (change score of 9.4) and group 2 went from 20.6 to 17.7 (change score of 2.9), a 13.9% improvement. For those initially in group 2 who entered Kundalini yoga treatment, their Y-BOCS scores improved 44% for their first 3 months. Both groups were merged for an additional year using the Kundalini yoga protocol. When comparing the 0-month baseline (n = 11) mean to the 15-month mean (n = 11) for all of those who completed the study, the improvements at 15 months were 70.1% (Y-BOCS), 58.8% (SCL-90-R OC

scale), 60.6% (SCL-90-R GSI scale), 70.1% (POMS), 48.3% (PSS), and 19.7% (PIL test), and all changes were statistically significant at $p \le 0.003$ (analysis of variance). The 0month baseline Y-BOCS score (n = 11) was 22.1 and the final score at 15 months was 6.6 (n = 11). And for these 11 patients the Y-BOCS totals included three 0 scores, one 1, two 5s, one 6, and an 11, 14, 15, and 16. Six (6) of the 12 medicated patients to enter completed the study. Three (3) of these 6 were free of medication for a minimum of 6 months prior to study end. The others reduced. The 70% mean group Y-BOCS improvement is an unusually high percentage rate for clinical change compared to other treatment modalities. Griest et al. (1995) compared the results from four multicenter placebo-controlled trials of clomipramine, fluoxetine, fluvoxamine, and sertraline and found respective percent Y-BOCS improvements of 39%, 27%, 20%, 26% for the "best-dose comparisons." Also, Kobak and colleagues (1998) recently conducted a meta-analysis to compare behavior therapy to the serotonin reuptake inhibitors and concluded that: "Behavior Therapy was comparable to the serotonin reuptake inhibitors." Seven (7) of the 11 patients finishing the RCT here have achieved what may be described as a subclinical state for the disorder, and the three 0 scores and one 1 score may be considered by some as a state of remission.

The patients in both clinical trials had the typical range of multiple obsessions and compulsions as defined by the Y-BOCS Symptoms Checklist (see Shannahoff-Khalsa, 1997). Also, in the second trial, five of the patients started therapy with trichotillomania, and their progress with this OC-spectrum disorder seemed to improve in a parallel fashion to their other symptoms. In fact, it appears that all symptoms, regardless of subgroupings, seem to improve at a near equal rate over time.

The Kundalini yoga protocol for the treatment of OCD is described in complete detail in Shannahoff-Khalsa (1997) and Shannahoff-Khalsa (2003a). However, the first three techniques and the OCD-specific technique (number 8 in that protocol) are included here immediately below. The first three techniques would be useful as a prelude for the treatment of the addictive disorders, depression, grief, and dyslexia. However, only technique 1 here would be a useful precursor for someone practicing the techniques listed below for the sleep disorders, assuming the sleep disorder techniques are practiced before bed time. The reasoning here is that techniques 2 and 3 below are too stimulating and would prohibit the relaxed state conducive to a restful sleep.

"Tuning in" to induce a meditative state: Technique 1 in the OCD Kundalini yoga protocol

"Tuning in" is always included before the practice of any Kundalini yoga meditation or exercise. This practice helps establish a meditative state and gives the experience of being in a "womb of healing energy."

Description of technique. Sit with a straight spine and with the feet flat on the floor if sitting in a chair. Put the hands together at the chest in "prayer pose" (i.e., the palms are pressed together with 10-15 pounds of pressure between the hands). The area where the sides of the thumbs touch rests on the sternum with the thumbs pointing up (along the sternum); the fingers are together and point up and out at a 60°-angle to the ground. The eyes are closed and focused at the "third eye" (imagine a sun rising on the horizon). A mantra is chanted out loud in a 11/2 breath cycle. Inhale first through the nose and chant Ong Namo with an equal emphasis on the Ong and the Namo. Then immediately follow with a half-breath inhalation through the mouth and chant Guru Dev Namo with approximately equal emphasis on each word. The practitioner should experience the vibrations that these sounds create on the upper palate and throughout the cranium while letting the mind be carried by the sounds. This should be repeated a minimum of 3 times and was used here in therapy approximately 10-12 times. This technique helps to create a "meditative state of mind" and is highly recommended as a precursor to the other techniques.

Spine flexing for vitality: Technique 2 in the OCD Kundalini yoga protocol

Description of technique. This technique can be practiced either while sitting in a chair or on the floor in a cross-legged position. If you are in a chair, hold the knees with both hands for support and leverage. If you are sitting cross-legged, grasp the ankles in front with both hands. Begin by pulling the chest up and forward, inhaling deep at the same time. Then exhale as you relax the spine down into a slouching position. Keep the head up straight without allowing it to move much with the flexing action of the spine. This will help prevent a whip action of the cervical vertebrae. All breathing should only be through the nose for both the inhale and exhale. The eyes are closed as if you were looking at a central point on the horizon, the "third eye," or otherwise described as the notch region on the nose exactly midway between the eyes. The mental focus is kept on the sound of the breath while listening to the fluid movement of the inhalation and exhalation. Begin the technique slowly while loosening up the spine. Eventually, a rapid movement can be achieved with practice, reaching a rate of 1-2 times per second for the entire movement. A few minutes are sufficient in the beginning; later, there is no time limit. Food should be avoided just prior to this exercise. If an unpleasant feeling of light-headedness develops, stop momentarily and then continue. Be careful and flex the spine slowly in the beginning. Relax for 1–2 minutes when finished.

Shoulder shrugs for vitality: technique 3 in the OCD Kundalini yoga protocol

Description of technique. While keeping the spine straight, rest the hands on the knees if sitting in a cross-legged position or with hands on the thighs if on a chair. In-

hale and raise the shoulders up toward the ears, then exhale, letting them down. All breathing is only through the nose. Eyes should be kept closed and focused at the third eye. Mentally listen to the sound of the inhalation and exhalation. Continue this action rapidly, building to 3 times per second for a maximum time of 2 minutes. This technique should not be practiced by individuals who are hyperactive.

Technique for OCD; technique 8 in the OCD Kundalini yoga protocol

Description of technique. Sit with a straight spine in a comfortable position, either with the legs crossed while sitting on the floor or in a straight back chair with both feet flat on the floor. Close the eyes. Use the right thumb tip to block the end of the right nostril, other fingers point up straight, allow the arm to relax (the elbow should not be sticking up and out to the side creating unnecessary tension). A secure plug can also be used for the right nostril. Inhale slowly and deeply through the left nostril, hold in long, exhale out slowly and completely through the same nostril only (left nostril), hold out long. The mental focus should be on the sound of the breath. Continue this pattern with a maximum time of 31 minutes for each sitting. Initially, begin with a comfortable rate and time, but where the effort presents a fair challenge for each phase of the breath. Holding the breath in or out long varies from person to person. Ideal time per complete breath cycle is 1 minute where each section of the cycle lasts exactly 15 seconds. This rate of respiration can be achieved within 5-6 months for the full 31 minutes with daily discipline. Yogic experiments (Yogi Bhajan, personal communication) claim that 90 days of 31 minutes per day using the perfected rate of 1 breath per minute with 15 seconds per phase will completely eliminate all OC disorders.

KUNDALINI YOGA MEDITATION TECHNIQUES SPECIFIC FOR OTHER PSYCHIATRIC DISORDERS*

The following sections include techniques for addictions, depression, grief, learning disorders, phobias, and sleep disorders. There are more than 500 different phobias and thus together constitute the most common psychiatric disorder.

*Medical-Legal Disclaimer: The techniques taught in this publication are not meant to be a substitute for medical care and advice. Patients are advised to consult with health care professionals with regard to matters relating to health, including matters that may require diagnosis or medical attention. In particular, if one has been diagnosed with OCD; addictive disorders; depression; grief; or learning or anxiety or phobic or sleep disorders; or if one is taking or has been advised to take any medication, one should consult regularly with a physician regarding any changes in medication use. The author, publisher, Yogi Bhajan, or any related institutions are not liable for any effects based on information here.

The American Psychiatric Association (APA; 1994) claims that the lifetime prevalence rate of phobias is 10%–11.3%; no number is provided for all substance abuse disorders combined, however, alone, noninstitutionalized adults (15-54 years of age) had a lifetime prevalence rate of alcohol dependency of 14% according to the APA. Rasmussen and Eisen (1990) state that phobias are the most common psychiatric disorder, followed by substance abuse disorders, the major depressive disorders, OCD, schizophrenia, and panic disorder. The selection of techniques for inclusion here are based in part on the prevalence of each psychiatric disorder and they are described here in alphabetical order. It must be noted, that to date, only OCD has been studied systematically using Kundalini yoga under randomized controlled conditions compared against other meditation techniques. The following techniques may also show substantial clinical efficacy under proper trial. However, no medical claims are made here, only descriptions of the techniques and what the ancient yogic teachings claim are included. Nonetheless, the precedent set by using Kundalini yoga meditation techniques for treating OCD may stimulate interest for others to study the clinical efficacy of this wide range of meditation techniques.

In addition to the meditation techniques listed in the introduction above (Shannahoff-Khalsa and Bhajan, 1991), others have also been published in peer-reviewed scientific texts that are not listed here. These include: (1) "A Meditation to Help Understand, Focus, and Create a Clear Consciousness" (also called Ganesha Meditation); (2) a "Technique for Healing Nervous Disorders—A Pratyhar Meditation Technique to Create a Silent and Stable Mind-Toward A State of Thoughtlessness"; (3) "When You Do Not Know What To Do"; and (4) "Meditation for Inducing Normal and Extra-Normal Brain Function: A Tantric Meditation Technique," all published in Shannahoff-Khalsa (2003a). Everyone of the these four meditation techniques would be useful for treating any anxiety-related disorder, and have been taught to patients with OCD and post-traumatic stress disorder (PTSD). In Shannahoff-Khalsa (2001), the following techniques have been published: "A Left-Nostril Unilateral Forced-Nostril Breathing Technique to Strengthen the Immune System," which is reported by yogis to be effective as an antiviral and antibacterial therapy, and "The Ultimate Pranayam-So Darshan Chakra Kriya," which is reported to give the capacity for attaining transcendency and enlightenment. Numerous other techniques that all include the use of mantras are published in Shannahoff-Khalsa and Bhajan (1988, 1991), Shannahoff-Khalsa (1996).

TREATING ADDICTIVE DISORDERS

The medical meditation for habituation: a technique to cure any addiction

In the early 1970s Yogi Bhajan taught this meditation technique, which is claimed to be specific for treating addictive

disorders (Khalsa, 1988). "It is excellent for everyone but particularly effective for rehabilitation efforts in drug dependence, mental illness, and phobic conditions (Yogi Bhajan)." Note the claim of efficacy in treating phobic and other mental disorders. This meditation technique would best be included in a protocol that included the first three techniques listed above in the OCD protocol. Others would also help to increase the ease of performance here. The most difficult aspect of use for this technique is the requirement to keep the arms up for an extended period of time. Individuals with addictive disorders usually find this aspect most challenging. Therefore, other techniques can frequently help by first establishing a relaxed mood for practice.

Description of technique. Sit either in a chair or on the floor. Straighten the spine and make sure the first six lower vertebrae are locked forward. This means the lower back is pushed forward as if you are "at attention." Make fists with both hands and extend the thumbs straight. Place the thumbs on the temples and find the niche where the thumbs just fit. This is the lower anterior portion of the frontal bone above the temporal-sphenoidal suture. This place is usually sensitive to touch, so do not apply strong pressure. Lock the back molars together and keep the lips closed. Vibrate the jaw muscles by alternating the pressure on the molars. A muscle will move in rhythm under the thumbs. Feel it massage the thumbs and apply a very light pressure with the hands. Keep the eyes closed and look toward the center of the eyes at the brow point—the "third eye"—the point where the top of the nose meets the forehead. Silently vibrate the five primal sounds Sa Ta Na Ma at the brow point (the fifth sound here is the sound "ah" that is basic to the other four sounds). The effects of the mantra are the following. The sound Sa gives the mind the ability to expand to the infinite; the sound Ta gives the mind the ability to experience the totality of life; the sound Na gives the mind the ability to conquer death; and the sound Ma gives the mind the ability to resurrect under all circumstances—so it puts your consciousness through the cycle of—infinity, life, death, and rebirth. This mantra cleanses and restructures the subconscious mind to help live in a conscious state that is merged with the infinite. Continue 5 to 7 minutes. With practice the time can be increased to 31 minutes maximum.

Comments

This meditation is one of a class of meditations that will become well-known to the future medical society. Meditation will be used to alleviate all kinds of mental and physical afflictions, but it may be as many as 500 years before the new medical science will understand the effects of this kind of meditation well enough to delineate all of its parameters in measurable factors. The pressure exerted by the thumbs triggers a rhythmic reflex current in the central brain. This current activates the brain area directly underneath the stem of the pineal gland. It is an imbalance in this area

that makes mental and physical addictions seemingly unbreakable. In modern culture, the imbalance is pandemic. If we are not addicted to smoking, eating, drinking, or drugs, then we are addicted subconsciously to acceptance, advancement, rejection, emotional love, etc. All these lead us to insecure and neurotic behavior patterns. The imbalance in this pineal area upsets the radiance of the pineal gland itself. It is this pulsating radiance that regulates the pituitary gland. Since the pituitary regulates the rest of the glandular system, the entire body and mind go out of balance. This meditation corrects the problem (Yogi Bhajan cited in Khalsa, 1988).

TREATING DEPRESSION

Here two meditation techniques are described. Either independently or together, they can have a major impact on depression and yield quick relief. Again, the first three techniques from the OCD protocol would be a great asset to therapy here. In fact, the technique called Spine Flexing for Vitality in that protocol has been known to have substantial effects on depression alone if it is practiced for 11–15 minutes. The first technique listed here was also published previously in Shannahoff-Khalsa (2003a).

Meditation to balance the Jupiter and Saturn energies: A technique useful for treating depression, focusing the mind, and eliminating self-destructive behavior[†]

Description of technique. Sit with a straight spine. The hands are facing forward with the ends of the Jupiter (index) and Saturn (middle) fingers pointing straight up near the sides of the body at the level of the eye. Close the ring and little fingers down to the palm using the thumbs. The Jupiter finger and the Saturn finger are spread open in a "V" shape (or closed). The eyes are closed. For 8 minutes open and close the Jupiter and Saturn fingers approximately once per second or two. Simultaneously image the planets of Jupiter and Saturn coming together and then again going apart in synchrony with the finger movement. Continue this movement (imagery) for 8 minutes. Then, while continuing exactly the same exercise, now begin to inhale and exhale through the nose with the movement (inhale as fingers are spread, exhale as fingers close). Continue this part for 2 minutes. Then for the last minute spread the two fingers wide and hold them wide apart (which requires some effort) while making the mouth in to an "O" shape and breath in and out of the mouth only using the diaphragm (not the upper chest wall). After 1 minute inhale, hold the breath in, and tense

every muscle tightly (including the hands, fingers—everything) in the body for 10 seconds, exhale and repeat one time for 10 seconds, Relax.

Effects of the meditation. The mind becomes focused and clear, the brain becomes energized (few other short 11-minute techniques compare). This technique will help eliminate depression. This meditation is said to help increase a person's intelligence (help enhance math skills) when practiced daily over several months. Also, when the Jupiter and Saturn energies are coordinated/balanced, a person is less likely to engage in self-destructive behavior. And in addition, when the Jupiter and Saturn energies (functional brain region areas related to the index and middle finger, respectively) are balanced, this helps an individual to overcome challenges.

A Meditation for Fighting Brain Fatigue[‡]

This technique has been used to help prevent depression and to treat depression. When practiced correctly, it can be a powerful antidote to depression, especially if combined with the technique above and the first three techniques from the OCD protocol.

Part 1. Sit with a straight spine with your elbows bent and your upper arms near your rib cage. Your forearms point straight out in front of your body, parallel to the floor. The right palm faces downward and the left palm faces upward. Breathing through your nose, inhale and exhale in eight equal parts. On each part or stroke of the breath, alternately move your hands up and down. One hand moves up as the other hand moves down. The movement of the hands is slight, approximately 6–8 inches, as if you are bouncing a ball. Breathe powerfully. Continue for 3 minutes and then change the hand position so that the left palm faces downward and the right palm faces upward. Continue for another 3 minutes and then change the hand position again so that the right palm faces downward and the left palm faces up for the last 3 minutes (total time here is 9 minutes).

Part 2. Begin slow and deep breathing (again only through the nose) stopping the movement and holding the position. Close your eyes and focus on the center of the your chin. Keep your body perfectly still so it can heal itself. Keep your mind quiet, stilling your thoughts. Time for this is 5.5 minutes.

To finish, inhale deeply, hold your breath, make your hands into fists and press them firmly against your chest for 15 seconds; exhale. Inhale deeply again and hold your breath, this time pressing both fists against your navel point for 15

[†]Originally taught by Yogi Bhajan on December 12, 1995.

[‡]Originally taught by Yogi Bhajan on March 27, 1995 (Bhajan, 2000).

seconds; exhale. Inhale again and hold your breath and bend your elbows, bringing your fists near your shoulders and press your arms firmly against your rib cage for 15 seconds and exhale. Now relax. This exercise balances the diaphragm and fights brain fatigue. It renews the blood supply to the brain and moves the serum in the spine. It also benefits the liver, navel point, spleen, and lymphatic system.

TREATING GRIEF

Many individuals suffer from grief, including those with PTSD. Yogis claim that grief, anger, and anxiety are major factors in the onset of a wide range of diseases. This technique would be most beneficial when practiced with the first three techniques listed in the OCD protocol.

Meditation for grief§

There are three separate parts for this therapy to maximize the benefits, however, part 1 can be done alone. The suggested music for each part is optional, however, the benefits of the music will only add to the therapeutic value. (Note: This meditation technique is best done in the evening after having eaten as many melons as possible during that day.)

1. Siddh Shiva: Whenever you have grief, do this exercise. It gets rid of centuries-old grief.

In position A; Sit with a straight spine in a crossed legged position. The eyes are wide open (do not meditate). The elbows are bent by the sides, and the upper arms are by the sides and the forearms are parallel to the ground and they are just above each leg, with the palms open and facing up and placed right above the knees.

In position B; Sort of curve the arms up so the hands bounce up to the shoulders. As you do this, the tongue goes out as far as possible (this is important because it affects the subconscious mind and helps get rid of the grief). Then return to position A, and the tongue goes back into the mouth, and the mouth closes, and the arms go back down to the position just above the legs. Do this powerfully with the breath. Inhale through the nose as you go into position A and exhale through the mouth as you go into position B. Breathe heavily. Listen to the tape: *Se Saraswati* by Nirinjan Kaur and Guru Prem Singh. Do it for 7 minutes total. To end, inhale and hold the breath in and press the tongue against the upper palate as hard as you can for 20 seconds. Exhale. Repeat this tongue process two more times (3 times total) then relax for 3 minutes.

Exercise to create an inner balance that then helps induce healing. Stretch the arms up over the head, elbows straight,

palms very flat and stiff, facing forward with the fingers together and the thumbs extended stiffly to the sides of the hands. Begin moving the left arm in a clockwise circle overhead and the left side of the body. Move the right arm in a counterclockwise direction overhead and over the right side of the body. The movements of the two arms do not seem to be related in any fashion. One arm gets into a certain rhythm of a circular movement while the other arm does the same. (Note. You can reverse directions if you wish.)

Comment: The idea of the movement is that the armpits get stimulated, so make the movement of the arms just an extension of the movement of the armpits and the sides of the rib cage. Usually we condemn ourselves and we have to feel guilty to be happy. This completely breaks through that. The tape: *Heal Me* by Nirinjan Kaur is played. Do this for 11 minutes and then rest for 5 minutes.

The third part of this exercise is to combine the breath of life (*prana*) and to help balance the Ida and Pingala, the major left and right meridians of the body, respectively.

Begin by inhaling through the left nostril by blocking the right nostril with the right thumb, then exhale only through the right nostril by blocking the left nostril with the right index finger and continue only with this pattern for three minutes (do not reverse nostrils).

Then, firmly grasp the knees by placing the palms flat down on top of them. Begin swaying your body forward approximately 1 foot, and then backward approximately 1 foot in a rhythmic fashion. The grip of the hands should be so firm that it keeps you from tilting over when you go backward. It is said that this posture increases the circulation in the area of the breasts for females so they will not develop breast cancer. It will develop your automatic concentration, so you can concentrate whenever you want. It will also help expel the dead cells out of the physical body. Keep your spine "tight" while doing the exercise. Tape played: Humee Hum Tumee Tum by Livtar Singh. Do this technique for 3 minutes. To end, Inhale deep and tighten your whole body and shake your body as much as possible. Do this five times total, holding the breath approximately 20 seconds the first time and 15 seconds the other four times.

TREATING LEARNING DISORDERS

While other meditations can be useful and one is specific for attention deficit disorder (ADD), and a combination of techniques can be useful for attention deficit hyperactivity disorder (ADHD), this technique for dyslexia is likely to help correct all learning disorders. However, caution is required when using it for younger people with ADHD because this technique is powerful and can be overstimulating if practiced too long in the beginning. Again, whether it is used for dyslexia alone or for ADD, the first three techniques in the OCD protocol would be most beneficial ad-

[§] Also called Siddh Shiva, taught by Yogi Bhajan May 17, 1990. |Available at the Ancient Healing Ways Web site: www.a-healing.com

juncts. However, in treating ADHD, the third technique in the OCD protocol should not be included because it can overstimulate individuals who are already overly active with high metabolic rates.

Meditation technique for dyslexia

Sit in easy pose. Eyes are open and focused on the tip of the nose. The arms are in front of the body and extended slightly to the sides with the palms ups and the hands are at approximately the solar plexus level. The fingertips touch the thumb tip in the following order. First touch the little finger tip (Mercury finger) to the thumb tip and mentally chant sa, then touch the index finger tip (Jupiter finger) to the thumb tip and mentally chant ta, then touch the ring finger tip (Sun finger) to the thumb tip and mentally chant na, then again touch the Jupiter finger tip to the thumb tip and mentally chant ma, then touch the middle finger tip (Saturn finger) to the thumb tip and mentally chant wha, then again touch the Mercury finger tip to the thumb tip and mentally chant hay, then open the hands completely (no fingers touch) and mentally chant gura. The tongue tip is constantly touching the upper palate in the top center where it is hard and smooth during the entire exercise, the tongue does not move. The breath has a sixpart broken-breath inhale and one-part exhale, all through the nose only. The six parts of the broken-breath of the inhale correspond to the 6 mental sounds of sa, ta, na, ma, wha, and hay, and the exhale corresponds to the mental sound guru. You mentally hear these sounds with each corresponding segment of the breath. The time for this extremely powerful technique can be anywhere between 11 minutes and 31 minutes as a maximum time. It is fine to start with less than 11 minutes and most people may have to do this in the beginning. Slowly build the time up to 31 minutes. Eventually, try to complete 40 days at 31 minutes/sitting and marvel at the extraordinary effects. End the meditation by closing the eyes, inhaling deeply, and stretching the hands up in the air above the head and shake the arms and hands and fingers vigorously for about 30-60 seconds. Exhale and relax.

Comments

The learning curve for this technique is relatively longer but worth the effort. This technique is stimulating and powerful. The yogic definition of dyslexia is the inability to process information or sensory feedback. Thus, humans are all "dyslexic" and what this technique can do for the average person is make the whole brain function at a much higher level of efficiency. This efficiency will only increase with practice. This technique can help organize all of the major and minor brain functions. A patient may not have understood how "dyslexic" he or she is until that patient learns to do this technique for some weeks and months.

TREATING PHOBIAS

Two techniques are included here for the treatment of phobias. The first is a relatively simple one and can be learned and practiced quickly, and the second is rather difficult. Note, the one for addictions above is also applicable to the phobias. Again the first three techniques in the OCD protocol would help increase the ease and benefits for either technique here.

A meditation for removing haunting thoughts

"This meditation can cure phobias, fears, and neuroses. It can remove unsettling thoughts from the past that surface into the present. And it can take difficult situations in the present and release them. All of this can be done in 40 seconds!" (Yogi Bhajan, personal communication). In addition, this technique is useful for patients with PTSD. There are 10 steps to it:

- 1. Lower the eyelids until the eyes are only open one-tenth. Start by mentally concentrating on the tip of the nose. Then silently say wha hay guru in the following manner: wha mentally focus on the right eye, hay mentally focus on the left eye, guru mentally focus on the tip of the nose.
- Remember the encounter or incident that happened to you.
- 3. Mentally say wha hay guru as in step 1.
- 4. Visualize and personify the actual feelings of the encounter.
- 5. Again repeat wha hay guru as in step 1.
- 6. Reverse the roles in the encounter you are remembering. Become the other person and experience that perspective.
- 7. Again repeat wha hay guru as in step 1.
- 8. Forgive the other person and forgive yourself.
- 9. Rerepeat wha hay guru as in step 1.
- 10. Let go of the incident and release it to the universe. These are 10 steps to peace.

An advanced technique for overcoming phobias and also achieving self-mastery and learning to heal others at a distance.

Description of technique. Sit in easy pose. Bring your elbows next to the ribs, forearms extended in front of you, with the hands in front of the heart, right over left, palms up. The hands are approximately 10° higher than the elbows. There is no bend in the wrists, the fingertips to the elbows form a straight line. The thumbs are extended out to the sides

[¶]This technique is called *Tershula Kriya* (Yogi Bhajan, August 1989).

of the hands, the fingertips and palms do not exactly line up, they are slightly offset. The eyes are closed looking at the backs of your eyelids. For the inhale, pull back on the navel and inhale through the nostrils and hold. Mentally repeat the mantra *Har Har Wha Hay Guru* as long as you are able to retain the breath. While you are doing this visualize your hands surrounded by white light. For the exhale, exhale through the nostrils and as you exhale, visualize lightening shooting out from your finger tips. When you have fully exhaled, pull mulbhand (pull in on the rectum, sex organs, and navel), and hold for as long as you can, again mentally repeating the mantra *Har Har Wha Hay Guru*. The maximum time is 62 minutes.

Comments. It has been suggested that this meditation be done in a cool room or at night when the temperature is cooler, because it stimulates the Kundalini directly and generates a great deal of heat in the body.

The word *Tershula* relates to the thunderbolt of Shiva, the ultimate deliverer. *Tershula* can heal everything. It is a self-healing process. This meditation is for the *gunas*. It brings the three nervous systems together. It also gives you the ability to heal at a distance, through your touch or through your projection. Many psychological disorders or imbalances in the personality can be cured through practice of this meditation. It is very helpful in getting rid of phobias and especially "father phobia" (Yogi Bhajan, August 1989).

TREATING SLEEP DISORDERS

The majority of sleep disorders result from the stress and tension of the day and frequently depression can also lead to insomnia. Here two different meditation techniques are included. The second is known to be efficacious for treating insomnia. However, one caveat of this technique is that it frequently leads to a worsening of sleep for 2-4 weeks for some patients and thus can be apparently complicating for the disorder in the beginning. Disturbing dreams are frequent in the beginning. However, long-term practice leads to a deep, healthy, and efficient sleep. Thus, the first technique that does not have this initial impact is best applied to help build the habit for a deep and restful sleep. Once this technique (Yuni Kriya) is learned, the individual may then find less disruption from the initial practice of the technique called Shabd Kriya (see below). Here, the first technique in the OCD protocol would be a very useful adjunct for the practice of either Yuni or Shabd Kriya if practiced right before going to bed. However, it is also possible to do both, or either techniques during the day as a means to gaining benefit. If the practice of Shabd Kriya is first started during the day, it has less negative impact on the initial results from

practice, and then all three techniques from the OCD protocol would be helpful.

Meditation for deep deep relaxation: Yuni Kriya#

Description of technique. Sit with a straight spine with both feet flat on the floor if sitting in a chair. The eyes are open and focused on the tip of the nose (to know where this spot is, take your index finger tip and touch the end of your nose, this is a spot you cannot actually see, but it is the point that you attempt to see; all you actually see is the blurry sides of the nose and anything else that may be in front of you but focus only on the tip. If you make the eyes go crosseyed, the sides of the nose will appear to balloon up-avoid this.) The elbows are relaxed against your sides and both hands come up to meet in front of the body at the level of the solar plexus approximately 1 foot in front of the body. The line that runs along the sides of the little finger and along the edges of the hand and then up along the sides of the thumbs touch, hand against hand. The thumbs point up and the little fingers point out away from the body. No other parts of the hands touch each other except along those lines. The three other fingers (index. middle, and ring are all grouped together side by side and do not touch the little fingers or the thumbs) are pointed out and away from the body and at approximately a 60°-angle to each other forming a cave structure. The breathing pattern should be slow and deep—inhale through the nose and exhale through the mouth and then inhale through the mouth and exhale through the nose and then in the nose, et cetera, continuing the cycle for 11 minutes. However, when inhaling through the mouth only, purse the lips as in a kiss. In the beginning the hand posture is a little uncomfortable for most people but in time it becomes easier to perform. This breath can take you into a very deep state of relaxation and should only be done right before going to bed or if you have nothing to do for several hours afterwards. This technique should not be done for more than 11 minutes.

Meditation for treating insomnia and regulating sleep stages: Shabd Kriya (Khalsa, 1974)

Description of technique. Sit with a straight spine with both feet flat on the floor. Place the hands in the lap, palms up with the right hand over the left. The thumbs pads, last joint, touch together and point forward. Focus the eyes on the tip of the nose with the eyelids half closed. The tip of the nose is the point you cannot actually see, but if you use a fingertip to touch the end of the nose, this is where the eyes are focused. This is not a cross-eyed posture but only begins to mimic it. The sides of the nose will look blurry during the focus, but cross-eyed makes the nose balloon up,

^{*}Taught by Yogi Bhajan on March 27, 1979.

which is not correct here. Inhale through the nose only in four equal parts, mentally vibrating the mantra sa ta na ma (one syllable per part of the 4-part inhale). While holding the breath, mentally vibrate the 4-syllable mantra a total of 4 times for a total of 16 beats, then exhale through the nose in 2 equal parts mentally vibrating the mantra "whahay guru," one word per part or beat. This equals a 22-part, or 22-beat cycle. Continue for 11 minutes and work up to 31 or 62 minutes.

CONCLUSION

In addition to the techniques listed above, this author has learned different Kundalini yoga meditation techniques for the following disorders and conditions: abused children, adolescents, and adults; anger (chronic, "deep long-lasting variety"); bipolar disorders (one for the manic phase, one for the depressed phase, and one to resolve the condition in general); chronic fatigue syndrome; impulsive behaviors; ADD; multiple complex personalities; mental illness in general; and nightmares. This ancient system also has many nondisorder-specific meditation techniques that would also be great adjuncts to therapy for psychiatric disorders. Many techniques would be useful for a variety of disorders. However, those that were described above to be disorder-specific were the focus of this paper. Many others for depression and anxiety have also been taught, but because of space limitations only select techniques have been included here.

ACKNOWLEDGMENT

Financial support for preparation of this manuscript was funded in part by The Baumgartel DeBeer Family Fund.

REFERENCES

- American Psychiatric Association. Diagnostic and Statistical Manual of Mental Disorders. 4th ed. Washington, D.C.: American Psychiatric Press, 1994.
- Benson H. The Relaxation Response. New York: Morrow, 1975.Bhajan Y. Self Experience: Kundalini Yoga as Taught by Yogi Bhajan. Espanola, NM: Kundalini Research Institute Publications, 2000.
- Bhajan Y. The Master's Touch: On Being a Sacred Teacher for the New Age. Espanola, New Mexico: Kundalini Research Institute Publications, 1997.
- Cohen S, Kamarck T, Mermelstein R. A global measure of perceived stress: Perceived stress scale. J Health Hum Behav 1983; 24:386–396.
- Crumbaugh JC, Maholick, LT. Purpose in Life Test, Test 168, Form A. Murfreesboro, TN: Psychometric Affiliates, 1976.
- Derogatis LR. Symptom Checklist-90-Revised. Minneapolis, MN: National Computer Systems, Inc., 1993.

Fontaine R, Chouinard G. Fluoxetine in the long-term treatment of obsessive compulsive disorder. Psychiatr Ann 1989;19:88–91.

- Goodman WK, McDougle CJ, Price LH. Pharmacotherapy of obsessive compulsive disorder. J Clin Psychiatry 1992;53:29–37.
- Goodman WK, McDougle CJ, Barr LC, Aronson SC, Price LH. Biological approaches to treatment-resistant obsessive compulsive disorder. J Clin Psychiatry 1993;54:16–26.
- Goodman WK, Kozak MJ, Liebowitz M, White KL. Treatment of obsessive-compulsive disorder with fluvoxamine: A multicenter, double-blind, placebo-controlled trial. Intern Clin Psychopharmacol 1996;11: 21–9.
- Griest JH, Jefferson JW, Rosenfeld R, Gutzmann LD, March JS, Barklage NE. Clomipramine and obsessive-compulsive disorder: A placebo-controlled double-blind study of 32 patients. J Clin Psychiatry 1990;51:292–297.
- Griest JH, Jefferson JW, Kobak KA, Katzelnick DJ, Serlin RC. Efficacy and tolerability of serotonin transport inhibitors in obsessive-compulsive disorder. Arch Gen Psychiatry 1995;52:53–60.
- Hembree EA, Riggs DS, Kozak MJ, Franklin MR, Foa EB. Long-term efficacy of exposure and ritual prevention therapy and sero-tonergic medications for obsessive compulsive disorders. CNS Spectr 2003;8:363–371.
- Jenike MA. Psychotherapy of obsessive compulsive personality disorder: In: Jenike MA, L Baer, WE Minichiello, eds. Obsessive-Compulsive Disorders: Theory and Management, 2nd ed. Chicago: Mosby-Year Book Medical Publishing, Inc., 1990: 295–305.
- Jenike MA. Pharmacologic treatment of obsessive compulsive disorders. Psychiatric Clin North Am 1992;15:895-919.
- Kabat-Zinn J. Full Catastrophe Living: Using the Wisdom of Your Body and Mind to Face Stress, Pain, and Illness. New York: Delacorte Press, 1990.
- Khalsa GS. Kundalini Meditation Manual for Intermediate Students. Espanola, NM: Kundalini Research Institute Publications, 1978
- Khalsa GS. Kundalini Yoga: Guidelines for Sadhana (Daily Practice). Los Angeles, CA: Arcline Publications, 1988:102.
- Kobak KA, Griest JH, Jefferson JW, Katzelnick DJ, Henk HJ. Behavioral versus pharmacological treatments of obsessive compulsive disorder: A meta-analysis. Psychopharmacology 1998; 136:205–216.
- Leonard HL, Swedo SE, Lenane MC, Rettew DC, Cheslow DL, Hamburger SD, Rapoport JL. A double-blind substitution during long-term clomipramine treatment in children and adolescents. Arch Gen Psychiatry 1991;48:922–927.
- McNair DM, Lorr M, Droppleman LF. Profile of Moods States. San Diego, CA: Educational and Industrial Testing Service, 1992.
- Murray CJL, Lopez AD. The Global Burden of Disease: A Comprehensive Assessment of Mortality and Disability from Diseases, Injuries and Risk Factors in 1990 and projected 2020. Cambridge, MA: Harvard University Press, 1996;1–98.
- Pato MT, Zohar-Kadouch R, Zohar J, Murphy DL. Return of symptoms after discontinuation of clomipramine in patients with obsessive-compulsive disorder. Am J Psychiatry 1988;145: 1521–1525.
- Rasmussen SA, Eisen JL. Epidemiology of obsessive compulsive disorder. J Clin Psychiatry 1990;51:10–13.

- Rapoport JL. The waking nightmare: An overview of obsessive compulsive disorder. J Clin Psychiatry 1990;51:25–28.
- Shannahoff-Khalsa DS. Stress technology medicine: A new paradigm for stress and considerations for self-regulation. In: Brown MR, Koob G, Rivier C, eds. Stress: Neurobiology and Neuroendocrinology. New York: Marcel Dekker, Inc., 1991:647–679.
- Shannahoff-Khalsa, DS. Sounds for transcendence: yogic techniques for opening the tenth gate, In: Pratt RR, Spintge R, eds. MusicMedicine II. St. Louis, MO: MMB Music, 1996;351–360.
- Shannahoff-Khalsa DS. Yogic meditation techniques are effective in the treatment of obsessive compulsive disorders. In: Hollander E, Stein D, eds. Obsessive Compulsive Disorders: Etiology, Diagnosis, and Treatment. New York: Marcel Dekker, Inc., 1997:283–329.
- Shannahoff-Khalsa DS. Unilateral forced nostril breathing: Basic science, clinical trials, and selected advanced techniques. Subtle Energies Energy Med J 2001;12:79–106.
- Shannahoff-Khalsa DS. Kundalini Yoga meditation techniques in the treatment of obsessive compulsive and OC spectrum disorders. Brief Treatment Crisis Intervention 2003a;3:369–382.
- Shannahoff-Khalsa DS. Kundalini yoga meditation for the treatment of OCD [Abstract]. In: Syllabus and Proceedings Summary. Symposium #65: New Research and Novel Therapeutic Strategies for OCD. 156th American Psychiatric Association Annual Conference, San Francisco, CA, May 17–22, 2003b:130–131.

- Shannahoff-Khalsa DS, Beckett LR. Clinical case report: Efficacy of yogic techniques in the treatment of obsessive compulsive disorder. Int J Neurosci 1996;85:1–17.
- Shannahoff-Khalsa DS, Bhajan Y. Sound current therapy and self-healing: The ancient science of nad and mantra yoga. Intern J Music Dance Art Ther 1988;4:183–192.
- Shannahoff-Khalsa DS, Bhajan Y. The healing power of sound: Techniques from yogic medicine. In: Droh R, Spintge R, eds. MusicMedicine. St. Louis, MO: MMB Music, 1991:179–193.
- Shannahoff-Khalsa DS, Ray LE, Levine S, Gallen CC, Schwartz BJ, Sidorowich JJ. Randomized controlled trial of yogic meditation techniques for patients with obsessive compulsive disorders. CNS Spectr 1999;4:34-46.

Address reprint requests to:
David S. Shannahoff-Khalsa
The Research Group for Mind-Body Dynamics
Institute for Nonlinear Science (Mail Code 0402)
University of California, San Diego
9500 Gilman Drive
La Jolla, CA 92093-0402

E-mail: dsk@ucsd.edu

This article has been cited by:

- 1. Maria B. Ospina, Kenneth Bond, Mohammad Karkhaneh, Nina Buscemi, Donna M. Dryden, Vernon Barnes, Linda E. Carlson, Jeffery A. Dusek, David Shannahoff-Khalsa. 2008. Clinical Trials of Meditation Practices in Health Care: Characteristics and Quality. *The Journal of Alternative and Complementary Medicine* 14:10, 1199-1213. [Abstract] [PDF] [PDF Plus]
- 2. Vikas Dhikav, Girish Karmarkar, Mallika Gupta, Kuljeet Singh Anand. 2007. Yoga in Premature Ejaculation: A Comparative Trial with Fluoxetine. *The Journal of Sexual Medicine* 4:6, 1726-1732. [CrossRef]
- 3. Albert J. Arias, Karen Steinberg, Alok Banga, Robert L. Trestman. 2006. Systematic Review of the Efficacy of Meditation Techniques as Treatments for Medical Illness. *The Journal of Alternative and Complementary Medicine* 12:8, 817-832. [Abstract] [PDF] [PDF Plus]
- 4. David Shannahoff-Khalsa . 2006. A Perspective on the Emergence of Meditation Techniques for Medical Disorders. *The Journal of Alternative and Complementary Medicine* 12:8, 709-713. [Citation] [PDF] [PDF Plus]
- 5. Neal L. Rojas, Eugenia Chan. 2005. Old and new controversies in the alternative treatment of attention-deficit hyperactivity disorder. *Mental Retardation and Developmental Disabilities Research Reviews* 11:2, 116-130. [CrossRef]
- 6. 2004. Literature Watch. Alternative and Complementary Therapies 10:2, 116-117. [Citation] [PDF] [PDF Plus]