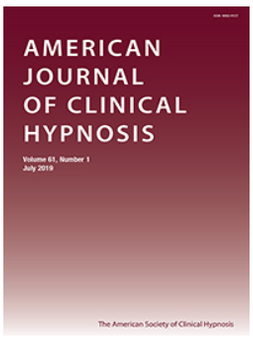

American Journal of Clinical Hypnosis

ISSN: 0002-9157 (Print) 2160-0562 (Online) Journal homepage: https://www.tandfonline.com/loi/ujhy20

Mindfulness-Based Cognitive Hypnotherapy and Skin Disorders

Philip D. Shenefelt

To cite this article: Philip D. Shenefelt (2018) Mindfulness-Based Cognitive Hypnotherapy and Skin Disorders, American Journal of Clinical Hypnosis, 61:1, 34-44, DOI: 10.1080/00029157.2017.1419457

To link to this article: https://doi.org/10.1080/00029157.2017.1419457

American Journal of Clinical Hypnosis, 61: 34–44, 2018

ISSN: 0002-9157 print / 2160-0562 online
DOI: https://doi.org/10.1080/00029157.2017.1419457

Mindfulness-Based Cognitive Hypnotherapy and Skin Disorders

Philip D. Shenefelt
University of South Florida, Tampa, FL, USA

Mindfulness-based cognitive hypnotherapy integrates mindfulness, cognitive-behavioral therapy, and hypnotherapy to improve physical, emotional, mental, and/or spiritual aspects of skin disorders. Meditation, including mindfulness meditation, and hypnosis both utilize trance phenomena to help produce focalization and specific improvements in skin disorders through psycho-neuro-endocrine-immunologic mechanisms. Hypnosis, cognitive hypnotherapy, focused meditation, and mindfulness meditation are discussed with respect to improving various skin disorders including acne, acne excoriée, alopecia areata, atopic dermatitis, congenital ichthyosiform erythroderma, dyshidrotic dermatitis, erythema nodosum, erythromelalgia, furuncles, glossodynia, herpes simplex, hyperhidrosis, ichthyosis vulgaris, lichen planus, neurodermatitis, nummular dermatitis, postherpetic neuralgia, prurigo nodularis, pruritus, psoriasis, rosacea, trichotillomania, urticaria, verruca vulgaris, and vitiligo. Their integration into mindfulness-based cognitive hypnotherapy is then discussed and illustrated with improvement in a patient with systemic lupus erythematosus.

Keywords: mindfulness, cognitive, hypnosis, skin disorders

Mindfulness-based cognitive hypnotherapy uses a multi-faceted approach to helping patients. Its integrative approach can often be more effective than the sum of its parts. A literature review of the various individual components as they relate to improving skin disorders will be followed by a case study that illustrates combining several components into an integrated synergistic set of processes tailored to a specific patient. The applications for skin disorders of hypnosis, cognitive hypnotherapy, and the various aspects of meditation including mindfulness meditation will be presented in turn, followed by their combination into mindfulness-based cognitive hypnotherapy. It is conceptually helpful to understand some of the underlying mechanisms of how the mind can influence the skin and how the skin can influence the mind.

Meditation and hypnosis both use natural trance states to access aspects of psyche and physiology not ordinarily accessible in the ordinary conscious waking state (Otani, 2016). It is accompanied by higher gamma (30 Hertz [Hz] or cycles per

Correspondence should be addressed to Philip D. Shenefelt, Department of Dermatology and Cutaneous Surgery MDC 079, College of Medicine, University of South Florida, 12901 Bruce B Downs Blvd, Tampa, FL 33612. E-mail: pshenefe@health.usf.edu

second and above) brain waves (Gross & Gotman, 1999). For alert awake mindfulness meditation it is also accompanied by lower alpha (8–12 Hz) brainwaves similar to alert/awake hypnosis and relaxed environmental scanning. This contrasts with higher brain wave frequencies corresponding to hypervigilance, fright, and anxiety at high beta (18–30 Hz) and ordinary focused alertness at beta (12–18 Hz). For inward focused concentrative meditation the brainwaves are in the theta (4–8 Hz) range similar to inward focused hypnosis and rapid eye movement (REM) sleep. Deep sleep is in the delta (0.5–4 Hz) range (Bertini et al., 2007; Cahn & Polich, 2013; JoGraffin, Ray, & Lundy, 1995). The brain cycles through diurnal (daily) sleep–wake cycles and within these are ultradian (roughly every 90 to 120 minutes) cycles (Rossi, 1982). The ultradian sleep cycles are between theta REM and delta deep sleep, while the ultradian awake cycles are between beta focused attention and alpha relaxed environmental scanning. Prolonged trance, including meditation and hypnosis, can cycle between low alpha and theta. Understanding these aspects of trance can help in their utilization.

Accompanying these brain wave quantitative frequency changes are changes in breathing rate and in autonomic nervous system (ANS) dominance. Hypervigilance, fright, and fear are accompanied by rapid breathing and high sympathetic nervous system (SNS) dominance. With ordinary focused alertness breathing is at a normal rate the ANS is balanced, and with social interaction and relaxed environmental scanning the neo-vagal parasympathetic nervous system (NVPSNS) is active according to polyvagal theory (Porges, 2007), while with rest and digestion or the freeze response the paleo-vagal parasympathetic nervous system (PVPNS) is dominant and breathing is slow. High SNS dominance associated with the fight or flight response is accompanied by increased inflammatory response that can flare inflammatory conditions including skin disorders such as acne, atopic dermatitis, psoriasis, and many others. High PVPNS dominance associated with rest and digestion quiets the inflammatory response and promotes healing, including healing of skin disorders.

Meditation and hypnosis permit intervention in skin disorders through psycho-neuro-endocrine-immunologic mechanisms. There is interaction between neuropeptides and other inflammatory mediators and skin cells in the epidermis and dermis and subcutaneous fat. For example, neuron released calcitonin gene-related peptide (CGRP), pituitary adenylate cyclase-activating polypeptide (PACAP), and vasoactive intestinal peptide (VIP) have each been shown to modulate delayed hypersensitivity reactions related to allergic contact dermatitis in the skin through modulation of Langerhans cell function by inhibiting NF-κB activation (Ding, Wagner & Granstein, 2007). As another example, neuron stimulated released of substance P from nerve endings and cutaneous mast cells has been shown to mediate the cutaneous flare, wheal, and itch response (Hagermark, Hokfelt, & Oernow, 1978). Interestingly, denervating skin causes clearing of psoriasis in the denervated area (Farber, Lanigan, & Boer, 1990). Psoriatic skin has high levels of nerve growth factor which seems to relate to this phenomenon

(Raychaudhuri, Jiang, & Farber, 1998). On the other hand, inflamed skin often is itchy or painful, inducing nerve signals to the brain that affect how the person feels and influences the person's moods and attitudes.

Hypnosis

Hypnosis has been used to assist in improving a wide variety of skin disorders. These include acne excoriée, alopecia areata, atopic dermatitis, congenital ichthyosiform erythroderma, dyshidrotic dermatitis, erythromelalgia, furuncles, glossodynia, herpes simplex, hyperhidrosis, ichthyosis vulgaris, lichen planus, neurodermatitis, nummular dermatitis, postherpetic neuralgia, pruritus, psoriasis, rosacea, trichotillomania, urticaria, verruca vulgaris, and vitiligo (Shenefelt, 2000). Behavioral medicine approaches using hypnosis for skin disorders such as acne, eczema, herpes, neurodermatitis, pruritus, psoriasis, and warts have been successful (Brown & Fromm, 1987, pp. 126–134). When hypnotic suggestion proves insufficient, such as for resistant warts, prurigo nodularis, or erythema nodosum, psychosomatic hypnoanalysis can often produce improvement or resolution (Shenefelt, 2007). Psychosomatic hypnoanalysis has also been reported effective in specific cases for herpes simplex, neurodermatiits, urticaria from chocolate, and persistent warts resistant to ordinary hypnotic suggestion (Ewin & Eimer, 2006, pp. 73–92). The affect bridge technique or the somatic bridge technique is often employed. Cheek and LeCron's seven key factors can be recalled by the mnemonic C.O.M.P.A.S.S. for Conflict, Organ language (skin), Motivation or secondary gain, Past traumatic experiences, Active identification with a significant person, Self-punishment, and Suggestion or imprint (Shenefelt, 2010). If there is still no response, where appropriate spiritual aspects can be explored and if spiritual blockages are present they can be removed to allow healing to proceed (Shenefelt & Shenefelt, 2014). Spiritual experiences often involve trance and can be explored through hypnosis. Hypnotic relaxation for dermatologic procedures and surgeries has been shown to significantly reduce anxiety associated with the procedures (Shenefelt, 2013).

Cognitive Hypnotherapy

Cognitive hypnotherapy employs both cognitive-behavioral approaches dealing with maladaptive thoughts, beliefs and behaviors and in addition hypnosis adding relaxation and guided imagery (Dowd, 2000). Brief cognitive hypnosis has been used successfully for resolution of nail biting, neurodermatitis, trichotillomania, and warts using waking state reframing and hypnotic suggestion (Zarren & Eimer, 2002, pp. 123–129, 224–226). Psychocutaneous disorders that have been improved with cognitive hypnosis as part of the treatment include acne, acne excoriée, atopic dermatitis, pruritis (itching), psoriasis,

trichotillomania, and urticaria (Alladin, 2008, pp. 125–136). Other psychocutaneous disorders such as delusions of parasitosis and dermatitis artifacta are generally not responsive. Taking acne as an example, an eight-step cognitive hypnotherapy case formulation is performed listing the major symptoms and problems in functioning, formulating a formal diagnosis, formulating a working hypothesis, identifying precipitants and activating situations, exploring the origin of negative self-schemas, summarizing the working hypothesis, outlining the treatment plan, and identifying strengths and assets and predicting obstacles to treatment (Alladin, 2008, p. 25). This involves gathering information from the patient about the locations and severity of the acne, remissions and flares and how the patient reacts to these cognitively and emotionally, the patient's beliefs about the skin, the acne and its treatment, and other persons' reactions to the acne. Hypnotic explorations and suggestions are targeted at the inflammatory aspects of the acne, the subjective experience of anxiety, depression, shame, or embarrassment about having the acne, and behaviors motivated by the acne such as picking, squeezing, and social withdrawal. Hypnotic relaxation is targeted at helping the immune system to normalize through restoring autonomic, hormonal, and immune balance and giving a sense of control. Hypnotic suggestions for ego strengthening are offered to increase self-confidence, self-esteem, problem solving skills, and optimize treatment responses. Symptom management suggestions are also offered, as well as imagery training for healing the skin. Self-hypnosis is taught to the patient along with a recording that the patient can use repeatedly at home. Posthypnotic suggestions are given to cover the above areas. Cognitive-behavioral therapy is also provided aimed at reducing distorted perceptions, thoughts, and beliefs, anger, frustration, anxiety, depression, and stress (Alladin, 2008, pp. 136–146).

Meditation

As well, meditative induction and maintenance techniques shift attention and focus. For mindfulness meditation, a breath induction is often used, focusing on the breath, calming and slowing down the breathing. There is emotional detachment, with nonjudgmental awareness of experiences in the present moment. Any thoughts or feelings are allowed to drift along like clouds in the sky. There is nonattachment but broad awareness of many objects, sounds, other sensations, or thoughts while remaining calmly centered. This is similar to the relaxed environmental scanning alpha state, but with disengagement of negative emotional feelings and negative self-talk. For concentrative meditation, the induction focus is on one object such as slow breathing, a candle flame, an image, a mandala, word, mantra, or chant. This is similar to the theta daydreaming or REM sleep, often accompanied by internal imagery or other content, again with nonattachment maintained. Transcendental meditation (TM) is a form of concentrative meditation using a mantra. TM has been analyzed and compared with heterohypnosis as altered states of consciousness (Barmark & Gaunitz, 1979). Both mindfulness meditation and

concentrative meditation have long been known to reduce stress. The focus for meditation is on centering and wholeness (Eastern concepts), in contrast to the Western use of hypnotic trance with a fix-it approach. Secularization of both mindfulness meditation derived largely from Theravada Buddhist traditions and concentrative meditation practices derived largely from Zen Buddhist traditions has permitted their use without having to learn the intricacies of the religious practices and beliefs originally associated with them. This simplification through secularization has facilitated the more widespread use of meditation among diverse patient populations. The meditative use of trance also does not have the kind of misguided negative lay perceptions and misconceptions that in some populations are associated with the word "hypnosis."

Similar to mindfulness and concentrative practice, a form of concentrative meditation known as the relaxation response was introduced by Benson (1975), which was found to shift ANS into PVPNS dominance (Rossman, 2010). This process is performed by sitting in a quiet place, closing the eyes, and letting the muscles tense up first and then allowing them to loosen up and relax. The exercise is started with the feet first and then working upward through the calf, thigh, hip, abdomen, back, hands, forearms, upper arms, neck, face including jaw and forehead, and scalp. At the same time the person is instructed to become aware of the breath, breathing evenly through the nose (a form of breath trance induction) and on each exhalation repeating the word "one" silently or quietly as a concentrative mantra (meditative trance induction). Distracting thoughts or sensations are allowed to drift away like clouds quietly floating across the sky. The concentrative meditation is practiced for about 10 to 15 minutes, then the person sits quietly for a few minutes, first with eyes closed and then with eyes open. The health benefits of the relaxation response have been researched extensively, with well-documented positive results in areas such as cardiovascular health. Any of these or a combination of these three techniques—(1) slow deep breath relaxation; (2) progressive muscle relaxation; and (3) guided or self-guided imagery to a safe pleasant place—can produce the relaxation response, that has been found to promote deep calmness and enhance healing (Rossman, 2010, pp. 39–48). Progressive muscle relaxation has been demonstrated to be equally effective compared with biofeedback and with autogenic training in producing hand-warming in patients with Raynaud's disease (Keefe, Surwit, & Pilon, 1980). Use of progressive muscle relaxation combined with guided imagery resulted in clearing of chronic eczema in a 25-year-old woman. She was asked while in a relaxed state to visualize her skin cells as little round persons basking on a beautiful warm peaceful beach, totally serene and utterly contented. Her skin cleared without the need for any medications and continued clear a year later (Gray & Lawlis, 1982). Skin conditions likely to benefit from the relaxation response include those higher on the Griesemer index of emotionally triggered skin disorders (Griesemer, 1978; Shenefelt, 2000). These include common skin disorders such as acne, atopic dermatitis, hyperhidrosis (excess sweating), psoriasis, and rosacea. Griesemer was Board Certified in both Dermatology and Psychiatry and kept a running tabulation and assessment of his patients for the span of 1 year (see Table 1).

TABLE 1
Griesemer Index of Emotional Triggering of Dermatoses in 4576 Patients*

Diagnosis	*Emotionally Triggered, %*	*Time Lag Between Stress Occurrence and Clinical Change*
Hyperhidrosis	100.0	seconds
Lichen simplex chronicus	98.4	days to 2 weeks
Neurotic excoriations	97.5	seconds
Alopecia areata	96.4	2 weeks
Warts, multiple and spreading	94.9	days
Rosacea	94.1	2 days
Pruritus	85.7	seconds
Lichen planus	81.8	days to 2 weeks
Dyshidrotic hand dermatitis	75.8	2 days for vesicles
Atopic dermatitis	70.2	seconds for itching
Factitial dermatosis	69.2	seconds
Urticaria	68.1	minutes
Psoriasis	62.3	days to 2 weeks
Traumatic dermatitis	55.6	seconds
Dermatitis not otherwise specified	55.6	days
Acne vulgaris	55.3	2 days for papules
Telogen effluvium	54.7	2 to 3 weeks
Nummular dermatitis	51.8	days
Seborrheic dermatitis	40.6	days to 2 weeks
Herpes simplex and zoster	35.7	days
Vitiligo	33.3	2 to 3 weeks
Nail dystrophy	28.5	2 to 3 weeks
Pyoderma and bacterial infections	29.1	days
Cysts	27.0	2 to 3 weeks
Warts, single and multiple not spreading	17.4	days
Contact dermatitis	15.3	2 days
Fungal infections	8.7	days to 2 weeks
Basal cell carcinoma	0	not applicable
Keratoses	0	not applicable
Nevi	0	not applicable

*Modified from (Griesemer, 1978; Shenefelt, 2000).

Mindfulness meditation has been adapted for medical use for stress reduction by Jon Kabat-Zinn (1990). Participants in a mindfulness meditation group were shown to have significantly increased antibodies to influenza vaccine compared with a control group (Davidson et al., 2003). The Mindfulness-Based Stress Reduction Program (MBSR) consisted of an 8-week course with weekly 2-hour classes where breathing techniques, body sensation awareness, and yoga stretching were taught. The course also included a half day of mindfulness meditation and daily homework of either 45 minutes of recorded guided meditation or 30 minutes of mindfulness meditation on their own. A study was conducted with patients with moderate to severe psoriasis undergoing ultraviolet B (UVB) or psoralens with ultraviolet A (PUVA) phototherapy to see the

influence of a MBSR intervention on the rates of skin clearing (Kabat-Zinn et al., 1998). UVB patient volunteer subjects were randomized to either MBSR or usual treatment; and PUVA patient volunteer subjects were randomized separately to either MBSR or usual treatment. Three audiotapes were used for the MBSR groups of patients. For the first three treatment sessions, all MBSR patients, both UVA and PUVA, listened to the same introductory tape, about 5 minutes long, while seated before entering the light booth. Once in the light booth, they listened to a mindfulness meditation tape coupled with guided imagery made specifically for their treatment type (UVB or PUVA). In the script, the initial focus is on full attention to the breath at the nostrils or belly, with any tensions or concerns flowing out with each out-breath and being released.

The patient was instructed to imagine breathing in vitality and renewal with each in-breath, and the skin feeling completely comfortable. Any wandering of the mind is viewed as usual activities of the mind and they are accepted without any judgment, gently bringing the focus back to the breath. Patients are encouraged to allow the awareness of the breath to occupy center stage, no matter what is occurring in the wings of the mind. Awareness is expanded to feel the whole body breathing, the whole skin breathing, with the air moving in and out of the body and across the skin, bathing the skin: feeling the whole body filled with a sense of relaxed wellbeing, enveloped and carried by the air itself moment by moment, breath by breath; imagining or realizing the mind is in contact with the skin, with the entire envelope of the body, and the mind directing healing energy to the skin, and in particular to those areas that are inflamed or problematic in any way; imagining the mind and breath working together, bathing those areas with warmth and well-being; bringing love, kindness, and acceptance to the skin, and especially to those regions that are inflamed or problematic; probably knowing that the skin cells of the basal layer of the epidermis in psoriasis reproduce and grow at about twice the normal rate.

As the ultraviolet treatment light or natural sunlight strike these cells, it binds up their internal machinery so that they cannot grow and divide so rapidly, and gradually the skin clears up. The mind can help speed up the clearing process by cultivating moment to moment awareness of the breath and of the body breathing and also by picturing in the mind's eye that the rays of the ultraviolet light can penetrate the surface of the skin, going down to the basal layer of cells and visualizing that the light is slowing down their growth by stopping the machinery that those cells use to divide.

The mind can have the intention for this effect to occur even when one is not exposed to the ultraviolet light or the sun as one continues to stay in touch with the breath at the moment and with the breathing of the entire skin enveloped as well in warmth and well-being. Intend the skin cells in each and every region of the body to return to their slower normal growth rate and function, and imagine in your mind's eye they respond to the message. Imagine seeing the scaly patches on the skin resolve and clear on their own accord in response to these messages. As the relaxation becomes deeper and deeper with practice, day by day, feeling the momentum of the healing intentions building and

growing, and the messages being taken up by the skin cells, slowing down their rapid growth and coming back into balance as one continues to ride the waves of breathing, relaxing into well-being, being fully present right in this moment.

Just as the mind goes back over and over again to the breath when it wanders off, and as each breath is encountered afresh as a new beginning, one can keep bringing this healing image to mind over and over again, with the intention of slowing down the rate of growth of the skin cells in response to the intentions for healing. This affirms the body's ability to heal, to find balance, to express its intrinsic wholeness in its natural state without judgement, blame, or criticism, with acceptance of things just as they are in the moment.

One can keep up this gentle loving intention and practice for own healing, moment by moment, breath by breath, in touch with the skin breathing and finding its own inner balance and embracing the intentions for the skin to clear and remain clear, even in times of stress. Patiently and steadily practicing in this way today and every day, one chooses to carry the awareness and intention right through the day as well. The patients are encouraged to listen to the same meditation tape in the light booth in every treatment session, hearing more of it as their time in the booth lengthened as part of the treatment process. Meditation instructions on the tapes include guidance in mindfulness with moment-to-moment nonjudgmental awareness of breathing, body sensations, sounds, thoughts, and feelings. They were also instructed to visualize the ultraviolet light (UVB group), or the ultraviolet light and psoralen (PUVA group) slowing down the growth and division of skin cells.

After subjects in the MBSR groups had completed 20 treatments with the guided meditation tape, they were given the choice of either continuing to use the meditation tape while in the light box or to practice the meditation and visualization on their own while listening to a tape of harp music. Most of the MBSR subjects chose to listen to the music at least once. The usual treatment patients did not listen to any tapes or music during their UVB or PUVA treatments. Regression analysis showed that for both the UVB and the PUVA groups the MBSR tape patients reached the halfway point and the clearing point significantly more rapidly than the no-tape control groups.

Mindfulness-Based Cognitive Hypnotherapy

Mindfulness-based cognitive hypnotherapy integrates hypnotic ego-strengthening with several mindfulness elements, including nonjudgmental observation of what is happening at the present time with intention, awareness, acceptance, and gratitude (Alladin, 2014; Alladin, 2016). A 33-year-old woman with systemic lupus erythematosus (SLE) had had a downward health spiral over her 14-year history with SLE. She had the typical lupus butterfly pattern rash on her face, hair loss, fatigue, and arthritis. Despite her profession as a registered nurse who worked in an intensive care unit, her condition was misdiagnosed for 7 years. She became more sedentary, developed obesity,

hypertension, migraine, sleep disturbances, depression, and anxiety, and she did not recognize that her use of tanning bed exposures was making her condition worse. She finally saw a rheumatologist and received an accurate diagnosis of SLE based on her physical findings and a high antinuclear antibody titer.

Conventional treatments with multiple drugs, each appropriate for specific health issues, were not resulting in significant improvement. Her medications for lupus included prednisone, salsalate, and hydroxychloroquine. She was on citalopram for depression, nortriptyline for depression and insomnia, eszopiclone for insomnia, and topiramate to level mood and suppress migraine headaches. For the migraine headaches she used sumatriptan, methylergonovine, tramadol, and Migranol (a proprietary blend of feverfew, curcuminoids and rosemary). She used clonazepam several times a day for anxiety. For elevated cholesterol she took simvastatin, and for hypertension she took captopril. She used omeprazole for gastrointestinal distress and oxybutynin for overactive bladder. She was referred to behavioral health, despite her protest, and factors that could aggravate or improve her SLE were explained to her (cognitive approach) along with healthier lifestyle modifications.

She was educated on the activating effect of ultraviolet light on her facial rash of SLE through promoting antinuclear antibody accumulation in the sun damaged skin with subsequent activation of the inflammatory response producing the facial rash. To reduce skin damage from the lupus she was instructed to change her behaviors to avoid the tanning bed she had been using and to minimize sun exposure through protective measures such as sun avoidance, tightly woven clothing, and sunscreen. Her facial rash did improve substantially. She was instructed in slow mindful eating and in mindfulness meditation to promote weight reduction and relaxation. She enjoyed the mindfulness meditation. Heart rate variability (HRV) biofeedback was introduced to help reduce her anxiety and depression and the body's inflammatory response that was exacerbating her SLE. She expressed an interest in hypnosis and was given suggestions for slow breathing, relaxation, pain reduction, and soothing her inflamed joints and skin.

She began practicing self-hypnosis at home, visualizing a cooling stream of water to cool her inflamed joints and skin, soothe pain, and wash away inflammation. She was also counseled on nutrition and shifted her food choices toward an anti-inflammatory food diet. In addition she was taught a cognitive-behavioral approach to improve her sleep disturbances. The combination of approaches resulted in considerable improvement and she was able to decrease or stop several of the medications she had previously required including prednisone. During a period of work stress, her joint swelling, pain, and skin eruption flared severely. She was able with slow breathing, self-hypnosis, and imagery to moderate her symptoms greatly over a 4-week period. As she improved her ANA lab values normalized. She maintained her lifestyle and nutritional changes and was much more comfortable and better able to function in her nursing work (Moss, 2016).

While SLE can wax and wane and remit spontaneously, her overall improvement and her flare during stress show how her case likely provides an excellent example of how

the multi-faceted approach of mindfulness-based cognitive hypnosis can potentially help to reduce inflammatory skin conditions such as the facial rash of SLE as well as other inflammatory aspects of SLE over both the immediate short- (days) and long-term (months). While case reports such as this can direct our awareness to the potential synergistic effects of judiciously combining hypnotic suggestion, mindful meditation, and cognitive-behavioral therapies, further research studies into the benefits of this integrated approach for reducing inflammation in various specific inflammatory skin disorders such as SLE, acne, atopic dermatitis, psoriasis, rosacea, and others are needed to provide a more secure scientific basis for recommending such integrated approaches.

References

Alladin, A. (2008). *Cognitive hypnotherapy: An integrated approach to the treatment of emotional disorders*. Chichester, UK: John Wiley and Sons.

Alladin, A. (2014). Mindfulness-based hypnosis: Blending science, beliefs, and wisdoms to catalyze healing. *American Journal of Clinical Hypnosis*, *56*(3), 285–302. doi:10.1080/00029157.2013.857290

Alladin, A. (2016). *Integrative CBT for anxiety disorders: An evidence-based approach to enhancing cognitive behavioural therapy with mindfulness and hypnotherapy.* Chichester, UK: Wiley Blackwell.

Barmark, S. M., & Gaunitz, S. C. B. (1979). Transcendental meditation and heterohypnosis as altered states of consciousness. *International Journal of Clinical and Experimental Hypnosis*, *27*(3), 227–239. doi:10.1080/00207147908407564

Benson, H. (1975). *The relaxation response*. New York, NY: Morrow.

Bertini, M., Ferrara, M., De Gennaro, L., Curcio, G., Moroni, F., Vecchio, F., … Babiloni, C. (2007). Directional information flows between brain hemispheres during presleep wake and early sleep stages. *Cerebral Cortex*, *17*(8), 1970–1978. doi:10.1093/cercor/bhl106

Brown, D. P., & Fromm, E. (1987). *Hypnosis and behavioral medicine*. Hillsdale, NJ: Lawrence Erlbaum Associates Publishers.

Cahn, B. R., & Polich, J. (2013). Meditation states and traits: EEG, ERP, and neuroimaging studies. *Psychology of Consciousness: Theory, Research, and Practice*, *1*(20130800; Supplement 1), 48–96.

Davidson, R., Kabat-Zinn, J., Schumacher, J., Rosenkranz, M., Muller, D., Santorelli, S. F., … Sheridan, J. F. (2003). Alterations in brain and immune function produced by mindfulness meditation. *Psychosomatic Medicine*, *65*(4), 564–570. doi:10.1097/01.PSY.0000077505.67574.E3

Ding, W., Wagner, J. A., & Granstein, R. (2007). CGRP, PACAP, and VIP modulate Langerhans cell function by inhibiting NF-κB activation. *Journal of Investigative Dermatology*, *127*(10), 2357–2367. doi:10.1038/sj.jid.5700858

Dowd, E. T. (2000). *Cognitive Hypnotherapy*. Northvale, NJ: Jason Aronson Inc.

Ewin, D. M., & Eimer, B. N. (2006). *Ideomotor signals for rapid hypnoanalysis: A how-to manual*. Springfield, IL: Charles C. Thomas.

Farber, E. M., Lanigan, S. W., & Boer, J. (1990). The role of cutaneous sensory nerves in the maintenance of psoriasis. *International Journal of Dermatology*, *29*(6), 418–420. doi:10.1111/ijd.1990.29.issue-6

Gray, S. G., & Lawlis, G. F. (1982). A case study of pruritic eczema treated by relaxation and imagery. *Psychological Reports*, *51*(2), 627–633. doi:10.2466/pr0.1982.51.2.627

Griesemer, R. D. (1978). Emotionally triggered disease in a dermatological practice. *Psychiatric Annals*, *8*, 49–56.

Gross, D. W., & Gotman, J. (1999). Correlation of high-frequency oscillations with the sleep-wake cycle and cognitive activity in humans. *Neuroscience*, *94*(4), 1005–1018. doi:10.1016/S0306-4522(99)00343-7

Hagermark, O., Hokfelt, T., & Oernow, B. (1978). Flare and itch induced by substance P in human skin. *Journal of Investigative Dermatology*, *71*(4), 233–235. doi:10.1111/1523-1747.ep12515092

JoGraffin, N. F., Ray, W. J., & Lundy, R. (1995). EEG concomitants of hypnosis and hypnotic susceptibility. *Journal of Abnormal Psychology*, *104*(1), 123–131. doi:10.1037/0021-843X.104.1.123

Kabat-Zinn, J. (1990). *Full catastrophe living: Using the wisdom of your body and mind to face stress, pain, and illness*. Crystal Lake, IL: Delta Publishing.

Kabat-Zinn, J., Wheeler, E., Light, T., Skillings, A., Scharf, M. J., Cropley, T. G., … Bernhard, J. D. (1998). Influence of a mindfulness meditation-based stress reduction intervention on rates of skin clearing in patients with moderate to severe psoriasis undergoing phototherapy (UVB) and phototchemotherapy (PUVA). *Psychosomatic Medicine*, *60*, 625–632. doi:10.1097/00006842-199809000-00020

Keefe, F. J., Surwit, R. S., & Pilon, R. N. (1980). Biofeedback, autogenic training, and progressive relaxation in the treatment of Raynaud's disease: A comparative study. *Journal of Applied Behavior Analysis*, *13*, 3–11. doi:10.1901/jaba.1980.13-3

Moss, D. (2016). Pathway interventions and systemic lupus erythematosus: The case of Mary Anne. *Biofeedback*, *44*(2), 73–80. doi:10.5298/1081-5937-44.2.05

Otani, A. (2016). Hypnosis and mindfulness: The twain finally meet. *American Journal of Clinical Hypnosis*, *58*(4), 383–398. doi:10.1080/00029157.2015.1085364

Porges, S. W. (2007). The polyvagal perspective. *Biological Psychology*, *74*, 116–143. doi:10.1016/j.biopsycho.2006.06.009

Raychaudhuri, S. P., Jiang, W.-Y., & Farber, E. M. (1998). Psoriatic keratinocytes express high levels of nerve growth factor. *Acta Dermato-Venereologica*, *78*, 84–86. doi:10.1080/000155598433368

Rossi, E. L. (1982). Hypnosis and ultradian cycles: A new state(s) theory of hypnosis? *American Journal of Clinical Hypnosis*, *25*, 21–32. doi:10.1080/00029157.1982.10404061

Rossman, M. (2010). *The worry solution*. New York, NY: Crown Archetype.

Shenefelt, P. D. (2000). Hypnosis in dermatology. *Archives of Dermatology*, *136*, 393–399. doi:10.1001/archderm.136.3.393

Shenefelt, P. D. (2007). Psychocutaneous hypnoanalysis: Detection and deactivation of emotional and mental root factors in psychosomatic skin disorders. *American Journal of Clinical Hypnosis*, *50*(2), 131–136. doi:10.1080/00029157.2007.10401610

Shenefelt, P. D. (2010). Hypnoanalysis for dermatologic disorders. *Journal of Alternative Medicine Research*, *2*(4), 439–445.

Shenefelt, P. D. (2013). Anxiety reduction using hypnotic induction and self-guided imagery for relaxation during dermatologic procedures. *International Journal of Clinical and Experimental Hypnosis*, *61*(3), 305–318. doi:10.1080/00207144.2013.784096

Shenefelt, P. D., & Shenefelt, D. A. (2014). Spiritual and religious aspects of skin and skin disorders. *Psychological Research and Behavior Management*, *7*, 201–212. doi:10.2147/PRBM.S65578

Zarren, J. I., & Eimer, B. N. (2002). *Brief cognitive hypnosis: Facilitating the change of dysfunctional behavior*. New York, NY: Springer Publishing Company.