Hypnosis in the Management of Sleep Disorders

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KEYWORDS

• Hypnosis • Sleep disorders • Relaxation

KEY POINTS

- Although sleep and hypnosis share the same Greek root, they are distinct states of consciousness.
- Hypnosis offers potential therapeutic benefit for patients with sleep disorders, although the strength of evidenced-based therapy with hypnosis remains low.
- Hypnosis seems to benefit patients with primary insomnia, secondary insomnia comorbid with perimenopausal hot flashes or posttraumatic stress disorder, somnambulism, pavor nocturnus (sleep terrors), and sleep-related enuresis.
- Systematic study has generally been to a lesser standard then more common therapies of sleep disorders, primarily because of the difficulties of an adequate control condition.
- For professionals who receive training in hypnosis, there can be significant therapeutic value in understanding the language of change, patient receptivity to suggestion, and the potential contribution of hypnosis for patients with sleep disorders.

Hypnosis has been used to manage insomnia and disorders of arousal. Although hypnosis includes the Greek root word for sleep, the alteration in the state of consciousness that is produced during hypnotic trance is more similar to relaxed reverie than sleep. The electroencephalogram of hypnosis shows none of the slowing of the electroencephalograph typical to sleep onset, although slow rolling eye movements are common in association with visualization during a hypnotic state. Hypnosis typically occurs in a state of repose and the accomplished subject may have no recollection of the experience during a trance, 2 commonalities with sleep. Because hypnosis allows for relaxation, increased suggestibility, posthypnotic suggestion, imagery rehearsal, access to preconscious cognitions and emotions, and cognitive restructuring, disorders of sleep such as the insomnias, parasomnias, and related mood or anxiety disorders can be amenable to therapeutic intervention through hypnosis or training in self-hypnosis.

Hypnosis is best considered a therapeutic modality rather than a therapy in its own right. It should be offered within the context of a complete psychological and medical treatment plan and offers the advantage to facilitate sensations, perceptions, thoughts, feelings, or behaviors. In a review of the literature in 2008, researchers in Singapore described how hypnosis has been offered as treatment for acute and chronic insomnia, nightmares, sleep terrors, and other parasomnias such as head or body rocking, bedwetting, and sleepwalking. The authors point out that it is a challenge "to perform a randomized, double-blind, controlled trial to evaluate hypnotherapy given that cooperation and rapport between patient and therapist is needed to achieve a receptive trance state."[1]

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Sleep Med Clin 10 (2015) 85–92
http://dx.doi.org/10.1016/j.jsmc.2014.11.003
1556-407X/15/$ – see front matter

THE MYTHS OF HYPNOSIS

Hypnosis is misunderstood by professionals and patients alike. Hypnosis is not mind control, simple suggestion, or gullibility. If you have a talent for hypnosis, it does not mean that you have a weak mind. At the same time that the Sleep Disorders Center at Stanford University was established, the University's Department of Psychology had a world-renowned researcher, Ernest Hilgard, investigating hypnotic phenomena such as his concept of the hidden observer.[2] The University of Pennsylvania was another reputable institution where hypnosis was studied. Catechol-O-methyltransferase polymorphism seems to be associated with the ability to enter a hypnotic trance on formal testing on a scale that is used to segment research subjects into groups of high and low hypnotizability.[3] Patients with sleep disorders may benefit because of the unique characteristics that hypnosis produces in relaxation and mental ease, absorption, orientation and monitoring, and self-agency. A challenge for this review is the primary method of report, case series, which lack significant experimental rigor, primarily because clinicians have offered description, and researchers in sleep medicine have generally not explored the use of hypnosis as a therapeutic modality.

HYPNOTIC INDUCTION/TRANCE

Practitioners of hypnosis have developed their own vocabulary to discuss the alterations in the state of consciousness that represents hypnotic trance.[4] The literature of hypnosis describes certain techniques for induction, deepening, pacing/leading, and posthypnotic suggestion. The use of therapeutic language through training in hypnosis is a significant advantage for any health care professional. Preparing the subject for hypnosis is like any appropriate therapeutic process that involves the setting of therapeutic goals and heightening expectancy. A trusting relationship facilitates entrance into trance. Focusing attention and the usage of repetition ("watch the watch," stare at an object across the room, or the point of a pencil, etc) allows the subject to alter consciousness more easily. Those who are interested in learning hypnotic technique should take a training course offered by professional organizations such as the American Society of Clinical Hypnosis. To assist understanding, a scenario is included that describes a hypnotic procedure that has been offered to insomnia patients (**Table 1**).

NEUROBIOLOGY OF HYPNOSIS

The electroencephalographic recording of subjects in a hypnotic state has no similarity to any stages of sleep. Hypnosis is associated with significant modulation of connectivity and activity within the brain. One research group identified a neural network that was most prominent in frontal regions of the brain, depending on the depth of the hypnotic state, the type of mental content and emotional involvement.[5] Hypnotizability as measured by structured assessment does not seem to have a significant effect on electroencephalographic activity, but hypnotic depth correlated with increased left anterior hemispheric slowing and decreased central fast electroencephalographic activity.[6] In a study of subjects with high hypnotizability (HH), the theta1 and theta2 spectral power was higher than in subjects with low hypnotizability. Coherence between distributed brain regions was sharply elevated in HH subjects within the theta and alpha frequency bands. The coherence between frontal and posterior areas within the beta–gamma frequency ranges was higher in HH subjects. The results suggest that HH subjects are engaged in imaginal mental activity, whereas low hypnotizability subjects are mainly engaged in linguistic activity.[7] In another study, HH participants reliably experienced greater state dissociation and exhibited lower frontal–parietal phase synchrony in the alpha2 frequency band during hypnosis than low hypnotizability participants. These findings suggest that HH individuals exhibit a disruption of the frontal–parietal network that is only observable during hypnotic induction.[8]

Neuroimaging studies also support information processing differences in HH subjects. Various studies have assessed state changes through hypnotic suggestions of typical phenomena. In a study of posthypnotic suggestion for amnesia (PHA), the PHA group showed reduced memory for details of a movie that was hypnotically "forgotten" but not for the context of the viewing of the movie. Activity in occipital, temporal, and prefrontal areas differed among the control and PHA groups, and between the PHA group during hypnotic amnesia and reversal of amnesia. The study authors opine that the more activated regions interrupt retrieval of long-term episodic memory, inhibiting retrieval.[9] It has been proposed that the activation of a portion of the prefrontal cortex in response to both hypnotic suggestions for decreased pain and to positive emotional experience might indicate an underlying mechanism of hypnotizability.[10] Changes in relaxation, mental ease, and absorption during standard hypnotic procedures are associated with changes in brain activity within structures critically involved in the basic representation of the body–self and the regulation of states of consciousness, supporting