Published in final edited form as:
Psychol Conscious (Am Psychol Assoc). 2014 June ; 1(2): 213–228. doi:10.1037/cns0000012.

Disseminating hypnosis to health care settings: Applying the RE-AIM framework

Vivian M. Yeh, **Julie B. Schnur**, and **Guy H. Montgomery**
Integrative Behavioral Medicine Program, Department of Oncology Sciences, Icahn School of Medicine at Mount Sinai

Abstract

Hypnosis is a brief intervention ready for wider dissemination in medical contexts. Overall, hypnosis remains underused despite evidence supporting its beneficial clinical impact. This review will evaluate the evidence supporting hypnosis for dissemination using guidelines formulated by Glasgow and colleagues (1999). Five dissemination dimensions will be considered: Reach, Efficacy, Adoption, Implementation, and Maintenance (RE-AIM).

Reach—In medical settings, hypnosis is capable of helping a diverse range of individuals with a wide variety of problems.

Efficacy—There is evidence supporting the use of hypnosis for chronic pain, acute pain and emotional distress arising from medical procedures and conditions, cancer treatment-related side-effects and irritable bowel syndrome.

Adoption—Although hypnosis is currently not a part of mainstream clinical practices, evidence suggests that patients and healthcare providers are open to trying hypnosis, and may become more so when educated about what hypnosis can do.

Implementation—Hypnosis is a brief intervention capable of being administered effectively by healthcare providers.

Maintenance—Given the low resource needs of hypnosis, opportunities for reimbursement, and the ability of the intervention to potentially help medical settings reduce costs, the intervention has the qualities necessary to be integrated into routine care in a self-sustaining way in medical settings. In sum, hypnosis is a promising candidate for further dissemination.

Keywords

Hypnosis; dissemination; RE-AIM; public health; brief interventions

Hypnosis was one of the earliest mind-body interventions to be used in medical settings, and was originally performed for pain relief during surgical procedures in eras without effective pharmacological analgesia (Esdaile, 1957). Modern research has continued to demonstrate therapeutic effects of hypnosis. Hypnosis is considered an evidence-based intervention for

Corresponding Author: Vivian M. Yeh, Ph.D. Department of Oncological Sciences, Box 1130 Icahn School of Medicine at Mount Sinai 1425 Madison Avenue New York, NY 10029-6574 Phone: (212) 659-5504 Fax: (212) 849-2566 vivian.yeh@mssm.edu.
Disclaimers: none

chronic pain associated with cancer (NIH technology assessment, 1996) and numerous meta-analyses have found that hypnosis can reduce a wide variety of medical symptoms and side effects. For example, hypnosis can: 1) reduce pain, distress, and other side effects arising from medical or surgical procedures (Montgomery, David, Winkel, Silverstein, & Bovbjerg, 2002; Montgomery, DuHamel, & Redd, 2000; Schnur, Kafer, Marcus, & Montgomery, 2008; Tefikow et al., 2013); 2) help control cancer treatment-related side-effects such as nausea, vomiting, and fatigue (Montgomery et al., 2009; Montgomery et al., 2014; Redd, Montgomery, & DuHamel, 2001; Richardson et al., 2007; Schnur, Kafer, et al., 2008); and, 3) help manage the symptoms of irritable bowel syndrome (IBS) (Moser et al., 2013; Rutten, Reitsma, Vlieger, & Benninga, 2013; Whitehead, 2006; Wilson, Maddison, Roberts, Greenfield, & Singh, 2006).

Even as the evidence for hypnosis has grown, its popularity has waxed and waned, and despite over a century of hypnosis practice and research, hypnosis is not yet typically offered as part of standard medical care. Support for the widespread dissemination of hypnosis in medical settings requires a new body of research that extends beyond efficacy, and that considers both individual and organizational level variables (Bowen et al., 2009; Glasgow, Vogt, & Boles, 1999; Proctor et al., 2009). Like much of the psychotherapy literature (McHugh & Barlow, 2010), hypnosis research has focused on building an evidence base for treatment efficacy, without making an argument for the factors that would make hypnosis a practical, acceptable, and disseminable intervention to patients and healthcare providers. Therefore, the purpose of this paper is to: 1) review, using the RE-AIM guidelines (Glasgow et al., 1999), the evidence for hypnosis as a brief intervention with the potential for dissemination; and, 2) emphasize new research directions suggested by the RE-AIM framework. We will begin with a definition of hypnosis and then a brief description of some basic hypnosis components.

Overview Hypnosis

Although there is some variation in how hypnosis is defined (for a summary refer to Montgomery, Schnur & Kravits, 2013) consensus on key issues has emerged. For the purposes of this review, we will present the definition used by Montgomery and colleagues (2010) as it was developed based on hypnosis use in medical settings. Here, hypnosis was defined as “an agreement between a person designated as the hypnotist and a person designated as the client or patient to participate in a psychotherapeutic technique based on the hypnotist providing suggestions for changes in sensation, perception, cognition, affect, mood, or behavior” (Montgomery et al., 2010, p. 80).

The hypnotic intervention itself commonly has multiple components. Below, we describe an example of a typical approach. To obtain informed consent and dispel misconceptions, sessions with hypnosis-naïve patients may begin with clarifications of what hypnosis can and cannot do. Patients are encouraged to ask questions and are provided with information that emphasizes individual control under hypnosis. Patients can be informed that they may choose to follow or ignore the suggestions by the hypnotist, and that they have the ability to “come out” of hypnosis whenever they want. Once patients consent to the procedure, the hypnotic induction begins, most commonly by suggesting patients experience mental and

physical relaxation while visualizing calming imagery. Next, a deepening procedure using a metaphor such as “descending a staircase,” is often used to help patients feel more deeply relaxed and hypnotized. At this point, symptom-specific suggestions can be made depending on medical needs (including post-hypnotic suggestions). Examples of suggestions include symptom reduction (e.g., less pain or distress) or an alternative sensation (e.g., cooling instead of burning). Finally, there is an ending, which typically involves asking patients to return to feeling alert and awake.

Hypnosis can be applied either alone or in conjunction with medical treatments (e.g., pain medication) as well as other psychological treatments (e.g., cognitive behavioral therapy). In fact, hypnosis has been found to augment beneficial cognitive behavioral therapy effects (Kirsch, Montgomery, & Sapirstein, 1995). Additionally, hypnosis can be applied before, during, or after medical procedures by a range of licensed healthcare providers such as psychologists, dentists, physicians, and nurses.

The mechanisms driving the therapeutic effects of hypnosis are the subject of some academic debate. It has been established that hypnotic effects cannot be explained in their entirety by either relaxation or distraction. Although relaxation is frequently a part of the hypnotic induction, individuals have responded to hypnotic suggestions in an active state (Wark, 2006) and a meta-analysis of hypnosis moderators indicated hypnosis effects were not the result of relaxation instructions (Kirsch et al.,1995). Similarly, hypnosis can have an additional effect beyond distraction on pain (Freeman, Barabasz, Barabasz, & Warner, 2000), and above and beyond relaxation with cognitive behavioral therapy on public speaking anxiety (Schoenberger, Kirsch, Gearan, Montgomery, & Pastyrnak, 1997). Hypnosis is most frequently explained as either a special state or as the result of socio-cognitive processes. Special state theorists emphasize that hypnosis occurs because individuals enter a trance (Spiegel & Spiegel, 1978),are experiencing a form of dissociation (Hilgard, 1991; Woody & Sadler, 2008), or when the lower order subsystems of the brain are directly activated without involving executive control (Dissociated control theory, Woody & Bowers, 1994) and that the degree to which hypnosis effects occur are best predicted by the individual difference variable of hypnotic suggestibility (Barabasz & Perez, 2007; Kosslyn, Thompson, Costantini-Ferrando, Alpert, et al., 2000; Milling, Shores, Coursen, Menario, & Farris, 2007). The socio-cognitive approach hypothesizes that hypnosis works by changing an individual's expected outcomes (Kirsch, 1991; Spanos, 1991; Lynn, Kirsch, & Hallquist, 2008) in a social context when individuals are open to suggestion. From the socio-cognitive perspective, individuals are capable of experiencing hypnosis, and whether it occurs depends on modifiable factors like expectancies. Medical settings may be especially conducive to positive expectancies about hypnosis, because medical settings are a social situation where patients are likely to trust their providers and are motivated to experience symptom relief.

These theoretical differences in hypothesized hypnosis mechanisms may not be incompatible (Kirsch & Lynn, 1995) and recent studies have found that both response expectancies and hypnotic suggestibility explain significant portions of hypnotic effects (Benham, Woody, Wilson, & Nash, 2006). Regardless of mechanism, meta-analyses have found positive effects (from small to large) for hypnosis on outcomes for both adults

(Montgomery et al., 2000; Montgomery et al., 2002, Schnur, Kafer, et al., 2008, Tefikow et al., 2013) and children (Accardi & Milling, 2009; Milling & Costantino, 2000; Schnur, Kafer, et al., 2008) in medical settings. Although studies have argued that individual differences in hypnotic suggestibility impact hypnotic responses (Milling et al., 2007), a meta-analysis (Montgomery, Schnur, & David, 2011) found that hypnotic suggestibility had only a small effect size on pain (r = .24). Furthermore, from a practical perspective, the assessment of hypnotic suggestibility can take longer than the hypnosis intervention itself, making assessment overly resource intensive for routine medical care (Montgomery et al., 2011). Given that the hypnotic suggestibility of most individuals falls into the middle range (Hilgard, 1965) and these average individuals benefit significantly from hypnosis (Milling, 2008; Montgomery et al., 2011), it has been recommended that hypnosis be offered for all patients even if effects may be somewhat smaller for those with lower levels of hypnotic suggestibility. Additionally, as hypnosis is most commonly used as an adjunct to care (e.g., modern patients are not likely to receive hypnosis as the only analgesic during surgery), patients do not require complete symptom control from hypnosis in order for the treatment to be considered successful.

The empirical evidence supports hypnosis as an efficacious intervention in medical settings. However, the existing empirical evidence is not sufficient for intervention dissemination. In order for dissemination to be accomplished, a new body of research that explores factors associated with dissemination is needed. To achieve this goal, we will use the RE-AIM framework (Glasgow et al., 1999) to highlight existing evidence for hypnosis' potential for dissemination within medical settings and to suggest future research fill gaps where they occur.

RE-AIM Framework

Since its inception, the RE-AIM dissemination framework (Glasgow et al., 1999) has been broadly applied in public health research to evaluate existing treatments and improve the integration of evidence based treatments into real world settings. RE-AIM has been used to evaluate and improve chronic illness care (Glasgow, McKay, Piette, & Reynolds, 2001), physical activity interventions (Eakin, Glasgow, & Riley, 2000), and the impact of public policy (Jilcott & Ammerman, 2007). The RE-AIM framework includes five dimensions for dissemination: **1) Reach** is the breadth of the population who can benefit from the intervention. This is characterized not just by the percentage of individuals who could use the treatment but whether this includes a diversity of demographics, psychosocial and medical conditions. **2) Efficacy** is whether the data support the outcomes intended by the treatment and if there are any unanticipated negative outcomes. **3) Adoption** is characterized by the percentage of possible settings who use a treatment, and if these settings are representative of all possible settings. **4) Implementation** is whether the program is delivered as intended by the developer. The RE-AIM framework considers effectiveness in clinical settings to depend on an interaction between efficacy and implementation (i.e., Efficacy X Implementation = Effectiveness). **5) Maintenance** is the extent to which an intervention can sustain itself after the procedures are originally implemented. This refers to the degree which an intervention becomes an entrenched part of regular activities for both

the individual and the organization. Next, specific studies supporting hypnosis in each of these areas will be reviewed.

Reach

One of the arguments supporting hypnosis as an intervention with the potential for dissemination is the intervention's ability to reach a wide range of individuals with different backgrounds (e.g., age, medical conditions, and ethnic and racial groups). Hypnosis can be widely applied, as side effects are rare and exclusion criteria limited (Lynn, Martin, & Frauman, 1996; Rhue, Lynn, & Kirsch, 1993). Hypnosis can be used to reduce pain, distress, and address other outcomes in medical settings, and this literature will be covered in greater detail in the efficacy section below. For the remainder of this section we will review the evidence that hypnosis is acceptable to, and efficacious for, a wide range of cultural, ethnic, and racial groups.

When considering the public health relevance of hypnosis it is important to ensure that hypnosis is acceptable to multiple groups. A study conducted by Sohl and colleagues (2010) showed that intention to use hypnosis to control cancer treatment-related side-effects did not differ by gender, ethnicity, education, or age. Although the primary focus of this study was not to investigate ethnic and racial group differences in attitudes towards hypnosis, the study was conducted in a highly multicultural sample. Only 48% of the sample identified as White and the remainder identified within the following ethnic and racial groups: 17% as Asian, 15% as Black, 15% as Hispanic, and 5% as Other. The Sohl et al. (2010) finding is consistent with other complementary and alternative medicine (CAM) studies that have found no associations between CAM use (excluding prayer) and race/ethnicity (Graham et al., 2005). These data suggest that hypnosis' acceptability does not appear to be limited by differences in demographic background.

There are also studies that support responsiveness to hypnosis across cultural groups. A large body of research has examined the extent to which hypnotic suggestibility potentially differs across cultural samples. African-Americans have been found to have similar levels of hypnotic suggestibility as Caucasians (Sapp & Hitchcock, 2001). Cross-cultural studies have also shown similar hypnotic suggestibility in Australian (Sheehan & McConkey, 1979), Canadian (Laurence & Perry, 1982), Danish (Zachariae, Sommerlund, & Molay, 1996), Finnish (Kallio & Ihamuotila, 1999), German (Bongartz, 1985), Italian (DePascalis, Russo, & Marucci, 2000), Romanian (David, Montgomery, & Holdevici, 2003), and Spanish (Lamas, delValle-Inclan, Blanco, & Diaz, 1989) samples. The comparable distribution of hypnotic suggestibility in multiple cultures, ethnic and racial groups supports the idea that hypnotic responses are likely similar across these groups. Further, randomized controlled trials of hypnosis that were conducted in ethnically and racially diverse samples have demonstrated that treatment efficacy does not differ as a function of ethnic or racial group identification (Montgomery & Bovbjerg, 2004; Montgomery et al., 2007; Montgomery et al., 2014).

Efficacy

Of the dimensions described by the RE-AIM framework, the evidence for hypnosis efficacy is the most developed. Hypnosis has been used in medical settings to treat and control a wide range of medical conditions, including headache (Hammond, 2007; Kohen & Zajac, 2007; Melis, Rooimans, Spierings, & Hoogduin, 1991), chronic pain (Adachi, Fujino, Nakae, Mashimo, & Sasaki, 2014; Jensen et al., 2011; Patterson & Jensen, 2003), and side-effects from medical treatments. In this section we will review the data for hypnosis outcomes under the following categories: 1) medical and surgical procedures, 2) cancer treatment-related side-effects, and 3) irritable bowel syndrome. This section is not intended to be a comprehensive, systematic review, but rather to provide the reader with a sample of the work in this area.

Medical and surgical procedures—Since its inception, hypnosis has been used to treat pain and discomfort resulting from medical and surgical procedures. Hypnosis has now been studied in randomized controlled trials for procedures including: breast reduction surgery (Ginandes, Brooks, Sando, Jones, & Aker, 2003), burn care (Patterson, 1992; Patterson & Ptacek, 1997; Wright & Drummond, 2000), coronary artery bypass grafting (Ashton et al., 1997; de Klerk, du Plessis, Steyn, & Botha, 2004; Greenleaf, Fisher, Miaskowki, & DuHamel, 1992), dental surgery (Enqvist & Fischer, 1997; Ghoneim, Block, Sarasin, Davis, & Marchman, 2000; Mackey, 2010), hand surgery (Mauer, Burnett, Ouellette, G.H., & H.M., 1999), interventional radiologic procedures (Lang, Joyce, Spiegel, Hamilton, & Lee, 1996), keratotomy (John & Parrino, 1983), percutaneous tumor treatment (Lang et al., 2008), percutaneous transcatheter vascular and renal interventions (Lang et al., 2000), pregnancy termination (Goldmann, Ogg, & Levey, 1988; Marc et al., 2008), and thyroidectomy (Defechereux et al., 2000).

Hypnosis outcomes from medical and surgical procedures have been the subject of four meta-analyses (Montgomery et al., 2000; Montgomery et al., 2002; Schnur, Kafer, et al., 2008; and Tefikow et al., 2013). Consistent with the Glasgow et al. (1999) recommendations, two of the meta-analyses extract data for outcomes across both individual patient and institutional levels (Montgomery et al., 2002; Tefikow et al., 2013). We will interpret meta-analytic results using Cohen's guidelines (Cohen, 1992) for *D* and *g* with 0.2 indicating small, 0.5 indicating medium, and greater than 0.8 indicating large effect sizes. The meta-analytic results for the full range of hypnosis outcomes indicate positive effects. However, there is some variation in the magnitude of effect. Earlier meta-analyses indicated medium to large effects across a range of outcomes (*D*= 0.74, Montgomery et al., 2000; *D*= 0.76-3.61, Montgomery et al., 2002; *g*= 0.88, Schnur, Kafer, et al., 2008) with the exception of physiological parameters (*D*= 0.27, Montgomery et al., 2002), whereas the most recent study found small to medium effects (*g*= 0.10- 0.53, Tefikow et al., 2013).

These differences in effect size could be due to study inclusion and exclusion criteria, as well as to newly published data. In the 11 years following the publication of the meta-analysis conducted by Montgomery et al. (2002) there has been increased activity in hypnosis research. Tefikow et al. (2013) included 23 more randomized controlled trials than Montgomery et al. (2002). While Tefikow and colleagues (2013) noted it is possible that the

inclusion of non-randomized studies in Montgomery et al. (2002) may have led to an overstatement of positive effects, the effect sizes in Montgomery et al., (2002) were not significantly different between the randomized and non-randomized studies. Another explanation of effect size differences is the exclusion of children from the 2013 meta-analysis, since children may be more responsive to suggestion than adults (Morgan & Hilgard, 1973). Meta-analysis has found larger effect sizes in children (Schnur, Kafer et al., 2008), although it remains unclear if this is due to age or the more frequent hypnosis treatment sessions found in child v. adult studies. Notably, when only effect sizes from adult patients are compared between the two most recent meta-analyses, the effect sizes converge (g= 0.55, Schnur, Kafer et al., 2008; g= 0.53, Tefikow et al., 2013).

Considering the breadth of meta-analytic results, the effect sizes for the reduction of pain (D= 0.74, Montgomery et al., 2000; D= 1.69, Montgomery et al., 2002; g= 0.44, Tefikow et al., 2013) and distress (D= 1.07, Montgomery et al., 2002; g= 0.88, Schnur, Kafer et al., 2008; g= 0.53, Tefikow et al., 2013) by hypnosis are the most robust. Effect sizes for other outcomes such as medication consumption, physiological parameters, recovery, and surgical procedure times are smaller but can be clinically meaningful (D= 0.27-3.61, Montgomery et al., 2002; g= 0.10- 0.38, Tefikow et al., 2013). Treatments with small effect sizes may be worthwhile if the intervention is not resource intensive and has limited associated risks (Ferguson, 2009). Since hypnosis interventions are typically brief, easily administered, and are not known to induce specific side effects, even hypnosis outcomes with small effect sizes may have a beneficial impact on patient comfort and quality of life. Small improvements to outcomes such as recovery and surgical procedure times may be especially important when aggregated at the organizational level and may lead to considerable cost savings. (Note, cost savings will be reviewed further in the maintenance section below.)

Cancer Treatment-Related Side-Effects—The use of hypnosis to control a range of cancer treatment-related side-effects is over 200 years old (Montgomery et al., 2013). Hypnosis for cancer pain is well-documented (Spiegel, 1985; Spiegel & Bloom, 1983; Tome-Pires & Miro, 2012) and is considered an evidence-based intervention (NIH technology assessment, 1996). Two literature reviews have also found overall positive effects of hypnosis for controlling nausea and vomiting in pediatric (Richardson et al., 2007) and adult populations (Redd et al., 2001). The meta-analysis conducted by Richardson and colleagues (2007) found hypnosis' effect sizes to range from D= 0.43 to D= 0.99. Other research demonstrates that hypnosis reduces side-effects related to cancer surgical procedures, including those associated with bone marrow aspiration (Liossi & Hatira, 1999; Snow et al., 2012), breast biopsy (Lang et al., 2006; Montgomery, Weltz, Seltz, & Bovbjerg, 2002; Schnur, Bovbjerg, et al., 2008) and breast cancer surgery (Montgomery et al., 2007). In the remaining section we will review the growing evidence for the use of hypnosis to control for the specific cancer treatment-related side effects of fatigue, distress, and hot flashes.

Hypnosis, in combination with CBT, has been shown to control fatigue and distress associated with radiotherapy. This area of research, however, is still emergent as only a total of four randomized controlled trials have been published, generally too few for meta-analytic approaches. A study published by Stalpers et al. (2005) on hypnosis alone to control

anxiety and improve quality of life reported mixed results. In this study 69 patients with a variety of different cancers (including prostate, breast, skin, uterine/cervix, lung, lymphoma, larynx, bladder, and brain) were randomized to undergo either hypnosis or standard care during radiotherapy. Although there were no significant differences between groups on anxiety or quality of life scales, nearly two-thirds of participants in the hypnosis group reported benefiting from hypnosis, and 52% reported that study participation had improved their mental well-being compared to none of the participants in the treatment as usual condition.

Interventions that have targeted specific radiotherapy symptoms and that provided hypnosis in the context of cognitive behavior therapy (CBTH) have found more positive effects. CBTH has been found to decrease fatigue and increase emotional well-being. A study by Montgomery et al. (2009) followed 42 patients randomly assigned to receive either CBTH or standard care over the course of breast cancer radiotherapy. Multi-level modeling indicated that those in the CBTH group did not experience significantly increasing fatigue over time, unlike patients in the control group. By the end of radiotherapy, between-group effect sizes for fatigue ranged from medium [daily fatigue visual analogue scale (VAS): d=0.65; daily muscle weakness VAS: d=0.59] to large (Functional Assessment of Chronic Illness Therapy-Fatigue subscale: d=0.82). Another study conducted by Schnur et al. (2009) compared the impact of CBTH to standard care on positive and negative affect. By week 5 of radiotherapy, participants in the CBTH group had 66% lower average negative affect scores and 43% higher average positive affect scores than those in standard care. Results from these two randomized controlled studies are promising, however, as the control conditions were both standard care instead of attention control it is unclear if the positive results could be attributed to CBTH or to therapist attention.

A follow-up to the Montgomery et al. (2009) study examined the effects of CBTH compared to an attention control condition in breast cancer patients receiving radiotherapy (Montgomery et al., 2014). Results indicated that by the end of radiotherapy, participants in the CBTH condition had significantly lower levels of fatigue and muscle weakness. Effect sizes ranged from medium-large (daily fatigue VAS: d=0.70) to large (Functional Assessment of Chronic Illness Therapy-Fatigue subscale: d=0.83; daily muscle weakness VAS: d=1.08). In this study, because hypnosis was provided in the context of cognitive behavioral therapy, it is not possible to separate the independent effects of either hypnosis or CBT. Differentiating between the two treatment components, however, was not a study aim. The CBTH studies were designed based on meta-analyses indicating larger effect sizes for CBTH than CBT alone (Kirsch et al., 1995). The existing four RCTs for radiotherapy side effects are promising, although additional work is needed to replicate these results, examine the relative contributions of hypnosis and CBT to study outcomes, and to do so in other cancers outside of breast cancer.

In addition to pain and fatigue, hypnosis has been shown to improve other cancer treatment-related side-effects such as hot flashes. Hot flashes afflict up to 78% of women who receive chemotherapy and 72% of tamoxifen users (Carpenter et al., 1998), and they significantly impair sleep, mood, and daily activities (Carpenter, 2001; Lamb, 1995). In the largest study to date on this topic, Elkins et al. (2008) found that for 51 women experiencing 14 or more

weekly hot flashes, hot flash frequency and severity significantly decreased (by 68%) from the beginning to the end of hypnosis treatment. Hypnosis group participants in this study also reported increased sleep and decreased anxiety, depression, and interference with daily activities. In contrast, women in the no-treatment control condition experienced no change in any symptoms. Although hypnosis has been shown to decrease hot flashes as compared to an attention control condition in postmenopausal women (Elkins, Fisher, Johnson, Carpenter, & Keith, 2013), hypnosis has not yet been compared to attention control in cancer populations. The investigation of hypnosis' effects on hot flashes in women undergoing cancer treatments is a promising area for further exploration.

Irritable Bowel Syndrome—Another area of promise for hypnosis is in irritable bowel syndrome. A narrative review found that out of 11 studies, 5 of which were controlled, hypnotherapy brought relief to approximately 87% of patients, cut symptoms in half, and its effects were equal to cognitive behavioral therapy alone (Whitehead, 2006). A systematic review of 20 studies, 18 of them clinical trials (4 randomized, 2 controlled, and 4 uncontrolled) revealed that approximately half of the clinical trials resulted in positive patient responses (Wilson et al., 2006). Both reviews noted limitations of small sample sizes, internal validity, and a lack of randomized controlled trials.

Since then, a number of these criticisms have been addressed. Rutten et al. (2013) conducted a systematic review of randomized controlled trials using hypnosis for irritable bowel syndrome and for functional abdominal pain in children and adolescents. They found three studies with sample sizes ranging from 22-52 individuals. All three studies showed statistically significant improvement for abdominal pain, two that found significant reductions in school absenteeism, and one noted sustained effects of hypnosis on abdominal symptoms up to one year after treatment.

Hypnosis research for adults with irritable bowel syndrome has also undergone improvements in methodological rigor. A recently published trial by Moser and colleagues (2013) found that hypnosis had positive effects even on refractory IBS in adults. In this study, 90 patients with refractory IBS were randomized to either the attention control condition (consisting of medical treatment and supportive discussion) or to the hypnosis condition (consisting of hypnosis, medical treatment, and supportive discussion). Results indicated significant group differences after treatment and up to 15 months later. At the end of treatment, 60.8% of the hypnosis group experienced clinically significant change on the Irritable Bowel Impact Scale, while clinically significant change was exhibited by only 40.9% of those in the control condition. This pattern persisted 15 months after treatment with 54.3% of individuals who received hypnosis and only 25% of those in the control condition still experiencing benefits. In the Moser study, self-hypnosis was taught in a group format, supporting the potential efficiency of the intervention. Overall, these results indicate growing support for the use of hypnosis to treat IBS.

Adoption

The level of hypnosis adoption in medical settings is low relative to its empirical support. In 2007, hypnosis was only used by approximately 0.2% of the general United States

population (Barnes, Bloom, & Nahin, 2008). Hypnosis is more common in cancer populations (estimated at 0.4% by Gansler, Kaw, Crammer, & Smith, 2008 and 0.6% by Fouladbakhsh & Stommel, 2008), but the rate of overall use remain low. In order for hypnosis to be adopted more widely it may be necessary to offer hypnosis education for both the general public and healthcare providers. Data indicate that while most individuals are not knowledgeable about hypnosis (Johnson & Hauck, 1999) individuals are willing to both receive and practice hypnosis in the medical context (Hermes, Hakim, & Sieg, 2004; Sohl et al., 2010). In this section, we will review the attitudes of medical stakeholders such as the broader public, patients and medical providers, and the results of educational programs designed to change hypnosis attitudes.

When surveyed, the general population in the United States had some misunderstandings about hypnosis, which is unsurprising since 71.7% indicated he or she had never received information about hypnosis (Capafons et al., 2008, p.143). One study investigated hypnosis attitudes in 272 participants across multiple age and social groups, including undergraduates, members of a recreational club, attendees at a women's spirituality conference, and members of a retirees association (Johnson & Hauck, 1999). Although most individuals had positive views about hypnosis, with 77% believing it would help relieve pain during dental and medical procedures, 78% of individuals also believed that “when hypnotized, sometimes a person is totally unaware of what is going on around him or her” (Johnson & Hauck, 1999, p. 17). Beliefs about loss of control during hypnosis could potentially limit individual willingness to undergo the experience, and when asked whether they would “like to be hypnotized,” only the majority of college students (70%) and women at the spirituality conference (84%) responded with some degree of affirmation. Members of a recreation center (53%) and retirees (32%) needed more convincing (Johnson & Hauck, 1999, p. 17). This question, however, did not specify the context in which the individual would be hypnotized, which can greatly influence willingness to experience hypnosis.

When attitudes towards hypnosis are investigated in the medical setting, responses towards hypnosis become more favorable (Hermes et al., 2004; Sohl et al., 2010). This is likely due to the social context of the medical setting, where psychotherapeutic treatments are offered within a relationship of trust that may amplify positive treatment expectancies and patient willingness to try hypnosis. A study conducted by Sohl and colleagues (2010) found that 89% of the 115 individuals surveyed would be willing to use hypnosis to control cancer treatment-related side-effects. Similarly, 71.6% of 310 dental patients who were receiving surgical treatment in the oral and maxillofacial region indicated they would like to have oral surgery while receiving a combination of local anesthesia and hypnosis (Hermes et al., 2010).

Potential providers of hypnosis have mixed views on the treatment's utility, which may be due to limited professional hypnosis training. A survey of 218 Australian anesthetists found that 48% of respondents said routine care should include hypnosis or positive suggestion, , particularly for pain and anxiety reduction (Coldrey & Cyna, 2004). At the same time, 63% of respondents also reported that their knowledge on the matter was “below average.” The limited availability of hypnosis training is evident across fields. When Walling, Baker & Dott (1998) questioned the program directions of clinical, counseling, or combined doctoral

programs in psychology they found that only 26% of programs (170 out of 218 programs responded) offered coursework on hypnosis. When professionals have more exposure and training to hypnosis, they tend to profess more favorable views of hypnosis, whether they are anesthetists (Coldrey & Cyna, 2004), dentists (Chaves, 2004), or psychologists (Capafons et al., 2005). This positive relationship suggests that education can improve attitudes towards hypnosis.

Indeed, multiple studies have shown attitudes towards hypnosis can be changed with training courses where undergraduate and graduate level psychology students received information, practiced hypnosis individually, and administered hypnosis to others (Molina & Mendoza, 2006). At the end of the course, students no longer endorsed negative adjectives about hypnosis such as “fraudulent” and instead endorsed positive adjectives like “therapeutic” and “practical” (Molina & Mendoza, 2006, p. 154). Other studies have also found nurses and medical doctors are more open to using hypnosis in medical settings after receiving information (Capafons et al., 2005; Thomson, 2003).

Although the general public and many healthcare professionals are not necessarily aware of hypnosis as a psychotherapeutic intervention, those who are informed are also more open to trying and administering hypnosis. Notably, as the knowledge base of healthcare professionals increases about hypnosis, so does their willingness to provide it. To promote the adoption of hypnosis in the broader medical community it may be necessary to provide formal training to medical professionals. In order for this to be accomplished, however, it may be necessary to first influence decision makers who shape professional training and decide what treatments are offered in medical settings.

Implementation

There is much to be learned about hypnosis implementation given the limited data on how settings that have adopted hypnosis have done so successfully. Preliminary feasibility studies suggest that hypnosis is acceptable to healthcare providers and has the ability to be integrated into regular practice. Hypnosis does not need to be a resource intensive intervention to administer and its flexibility in administration is one of its strengths regarding future disseminability. In this section we will review how hypnosis was received in some real-world settings and the evidence that hypnosis can be applied and adhered to with fidelity by a range of healthcare providers and patients.

A few studies have examined hypnosis’ feasibility and implementation in real world settings. Dobbin, Maxwell, and Elton (2009) examined the willingness of National Health Service primary care clinics in England to refer their patients to self-hypnosis for depression while they were waiting for other psychological services. They found that 12 out of 14 practices were willing to take part in the feasibility study, and 46% of the general practitioners made regular referrals for hypnosis. This study did not ask the practices to change their work flow beyond providing referrals, however, which requires significantly fewer resources to implement than if medical staff were providing hypnosis services in-house. The model used in the Dobbin et al. (2009) study may not be feasible in other medical settings considering the lack of infrastructure connecting medical settings with

hypnosis providers. However, in the future if validated hypnosis self-training programs were developed it may become more practical for widespread dissemination of hypnosis to occur.

Another study by Brann and Guzvica (1987) examined the implementation of a hypnosis program in a general obstetrics practice in England. In this study, hypnosis was provided in-house and patients were given an option for either hypnosis or standard relaxation training. Researchers reported that at first there were many misconceptions about hypnosis in both the practice and with the patients but over time “the village grapevine worked well to dispel the myths” and hypnosis became “accepted by many women in the practice as a normal part of antenatal care” (Brann & Guzvica, 1987, p. 439). The degree to which hypnosis was accepted at this clinic can also be indexed by the addition of hypnosis as a routine class offered to all women anticipating childbirth by the study's end. Details about how the program was implemented, however, were not reported and prevent using this study as a guide for future implementation. Although it seemed likely the hypnosis class was integrated into the regular staff workflow because every class was introduced by either a general practitioner or the community midwife, the study did not explain the degree to which staff members actually participated in the sessions. Future implementation studies can benefit from the recent advancements in implementation research which have specified organizing frameworks to maximize the utility of study results in advancing implementation strategies (Curran, Bauer, Mittman, Pyne, & Stetler, 2012; Peters, Adam, Alonge, Agyepong, & Tran, 2013; Proctor et al., 2011).

Efficacious treatments can only be effective if the necessary components of the intervention remain present when applied in real-world settings. Hypnosis can be standardized and administered effectively by a variety of healthcare professionals in addition to prerecorded material, which supports the disseminability of the intervention. In regard to flexibility, hypnosis can be applied before, during, or after medical and surgical procedures, depending on the needs of the patient or medical setting. In practice nurses, dentists, psychologists, and medical doctors have successfully provided hypnosis and some studies have documented the training and or effectiveness of different healthcare providers administering hypnosis, including social workers (Anbar & Hummell, 2005).

Second, it is possible to train the patients themselves to self- administer hypnosis through recorded programs. Numerous studies of taped hypnotic inductions for surgery have demonstrated pain relief (Block, Ghoneim, Sum Ping, & Ali, 1991; Enqvist, Bjorklund, Engman, & Jakobsson, 1997; Ghoneim et al., 2000; Hart, 1980). There is also growing interest in the use of technology to provide the treatment. Hypnosis for insomnia has been administered feasibly over the Internet (Farrell-Carnahan et al., 2010) and a recent review of smartphone apps found that hypnosis apps are popular, although no empirical evidence has yet supported their efficacy (Sucala et al., 2013). Although there is evidence to suggest hypnosis with a live hypnotist has a larger effect size than recorded sessions for medical and surgical procedure related outcomes (*D*= 1.40 vs. 0.55, Montgomery et al., 2002; *g*=1.22 vs. 0.19, Schnur, Kafer, et al., 2008), there are significant practical advantages to providing hypnosis without a hypnotist. Not only are there decreased organizational costs, but it also provides the option for patients to practice hypnosis independently. In the majority of hypnosis studies patients are exposed to hypnosis only just before, during, or after a medical

or surgical procedure, but repeated practice with hypnosis may also increase its familiarity and effectiveness.

Existing studies about patient adherence to self-hypnosis practice supports hypnosis as a treatment that individuals can and will independently practice. Like all health behaviors, a potential barrier for self-hypnosis is that it requires motivation and a reliable plan for the patient to engage. Even with minimal contact from health providers, however, participants learning hypnosis for insomnia over the Internet (Farrell-Carnahan et al., 2010) were found to have practiced on 19 out of 28 days, and all but three out of 14 individuals practiced at least 16 times over a period of 28 days. Support for self-hypnosis adherence was also found in other studies which tracked hypnosis self-practice during a hospital admission for coronary artery bypass surgery (Ashton et al., 1997) and children with functional abdominal pain (Anbar, 2001).

Ultimately whether a clinical practice prefers to have live hypnosis sessions or recorded (e.g., CD, MP3) hypnosis session, or a combination of the two may depend on the unique characteristics of the practice and this decision making deserves further study. Factors including clinical staff workflow, patient population, and availability of trained personnel may influence institutional decision-making regarding hypnosis.

Although many features of hypnosis make it a readily disseminable intervention, much work is needed to better understand how hypnosis may be disseminated successfully into medical settings. For example, formal dissemination trials are needed. Directions for future research include: 1) repeated assessments of institutional variables to better understand potential barriers and how they may be changed, such as staff attitudes and workflow constrictions, 2) dynamic feedback loops so that staff feedback can be integrated readily to remove identified barriers, and 3) improved development and testing of evidence-based hypnosis apps for smartphones, to more widely disseminate hypnosis. The production of these apps, a project which our research group is currently undertaking, may decrease the amount of resources necessary to implement hypnosis with patients. While knowledge about how hypnosis can be implemented into the medical setting is limited at this stage, this area is also one with great possibilities for growth and potential to positively impact public health.

Maintenance

To the best of our knowledge, no studies exist that delineate how hypnosis can be maintained in clinical settings. However, as we all know, cost issues are a critical factor in determining whether any intervention is adopted and maintained. Therefore, in the text below we will review strengths and barriers for hypnosis dissemination from a cost-effectiveness perspective. Although RE-AIM does not explicitly include economic factors in the consideration of whether a treatment merits dissemination (Glasgow et al., 1999), consideration of cost is inevitable when asking medical settings to spend the valuable resources of time, staff, and space on an intervention. Additionally, one of the goals of the Affordable Care Act (Kocher, Emanuel, & DeParle, 2010) is to make effective treatments affordable to both patients and the cash-strapped medical system, and treatments that are consistent with this goal are more likely to be utilized.

Hypnosis is reimbursable by Medicare and numerous private insurance policies [CPT code 90880; Centers for Medicare and Medicaid Services (CMS), 2013a], which helps healthcare providers and medical settings pay for the resources they use to provide hypnosis. Interestingly, as noted by Reid (2012), hypnosis has a higher reimbursement rate than individual or family psychotherapy due to the higher "work value unit" (Relative Value Unit [RVU]) assigned to hypnosis by CMS. In 2013, the national non-facility reimbursement rate was $95.98 for hypnotherapy and $80.63 for individual/family psychotherapy (CMS, 2013b). Reimbursement, however, is also dependent on diagnosis and most health insurance organizations do not reimburse when the use of hypnosis for a specific diagnosis is considered investigative rather than evidence-based. Usually these guidelines demand significant supporting data, and so, hypnosis is usually reimbursable for chronic pain, as an adjunctive treatment for anxiety, sometimes for distress associated with medical and surgical procedures, and sometimes for analgesia in children or when painkillers are contraindicated (Atena, 2013; Blue Cross Blue Shield of Minnesota, 2013). It is therefore necessary for randomized controlled trials to continue to establish evidence for hypnosis as an efficacious treatment so that third party payers can refer to a strong evidence base. With increased efficacy data, Medicare and other insurance organizations are more likely to reimburse for hypnosis in more areas, therefore increasing the ability of practices to maintain hypnosis as a routine treatment.

There is also growing evidence that hypnosis is a cost-effective treatment. Meta-analyses have demonstrated hypnosis can reduce the overall time patients require in the surgical room (g = 0.25, Tefikow et al., 2013; D= 0.76, Montgomery et al., 2002), and even small effect sizes on time can yield large cost savings as every minute spent in the highly specialized setting of the operating room has sizable costs. Compared to standard care, the addition of hypnosis has been found to improve patient outcomes for 236 women undergoing large core needle breast biopsy without increasing cost or time spent in the procedure room, despite the fact that hypnosis induction also occurred in the procedure room (Lang et al., 2006). A study examining hypnosis effects in 79 patients undergoing interventional radiological procedures indicated hypnosis decreased time spent in the procedure suite from 78 to 61 minutes, and that cost spent on hypnosis training for staff would be recouped after using hypnosis in 10-50 patients (Lang & Rosen, 2002). A study by Montgomery el al. (2007) examined 200 patients undergoing either excisional breast biopsy or lumpectomy for breast cancer found that patients who received 15-minutes of pre-surgery hypnosis had a reduced surgical time of a mean 10.6 minutes and cost $772.71 less than those in the control group. When savings are considered from the perspective of the United States in its entirety, it has been estimated that if 92% of newly diagnosed breast cancer patients received hypnosis for breast cancer surgery, then an annual $138,112,331 would be saved (Block, 2010). This estimate may even be below actual cost savings (Montgomery et al., 2013), as it only included information for women who were found to have breast cancer after biopsy, when 80% of biopsy results are benign (Goff, Molloy, Debbas, Hale, & Jaques, 1995).

For health organizations to consider spending resources on the maintenance of hypnosis, more work is needed to demonstrate cost sustainability of hypnosis interventions. Building an evidence base to support the implementation and maintenance of hypnosis in medical

settings from a cost-perspective is one of the first steps in appealing to medical decision makers to incorporate hypnosis into the medical structure.

Conclusions

Hypnosis has the potential to become a widely disseminable psychotherapeutic intervention with a significant public health impact across multiple outcomes for a variety of patients in medical settings. Evidence supports hypnosis as a treatment acceptable to individuals from multiple demographic groups and suitable for a range of clinical problems, including the pain and distress associated with medical and surgical procedures, cancer treatment-related side effects, and irritable bowel syndrome. It is likely hypnosis could be integrated easily into existing healthcare staff workflows due to the flexibility of its administration- it often requires only a short amount of time (e.g., 15 minutes), can be standardized across multiple platforms (from live hypnotists to recorded delivery), and can be conducted by either healthcare providers or patients themselves (self-hypnosis). Future work is needed to inform medical stakeholders about the dissemination of hypnosis, including the most effective ways to incorporate hypnosis into standard clinical practice. Despite growing efficacy data for hypnosis, additional research must be developed within each of the RE-AIM framework dimensions to further guide hypnosis dissemination. Cost-effectiveness data may be especially compelling to healthcare organizations and decision-makers. Hypnosis has promising efficacy in healthcare settings, but clearly a research practice gap exists given that few patients have access to and use this intervention. The RE-AIM framework suggests future research directions to bridge this gap.

Acknowledgments

Preparation of this manuscript was supported by the National Cancer Institute (5R25CA081137-14). The content is solely the responsibility of the authors and does not necessarily represent the official views of the National Cancer Institute or the National Institutes of Health.

References

Accardi MC, Milling LS. The effectiveness of hypnosis for reducing procedure-related pain in children and adolescents: a comprehensive methodological review. Journal of Behavioral Medicine. 2009; 32(4):328–339. doi: 10.1007/s10865-009-9207-6. [PubMed: 19255840]

Adachi T, Fujino H, Nakae A, Mashimo T, Sasaki J. A meta-analysis of hypnosis for chronic pain problems: a comparison between hypnosis, standard care, and other psychological interventions. International Journal of Clinical and Experimental Hypnosis. 2014; 62(1):1–28. doi: 10.1080/00207144.2013.841471. [PubMed: 24256477]

Aetna. Eligible Health Care Expenses. 2013. Retrieved from http://www.aetna.com/members/fsa/eligibleExpenses/healthcareFSA/healthexpenses_H.html

Anbar RD. Self-hypnosis for management of chronic dyspnea in pediatric patients. Pediatrics. 2001; 107(2):E21. doi: 10.1542/peds.107.2.e21. [PubMed: 11158495]

Anbar RD, Hummell KE. Teamwork approach to clinical hypnosis at a pediatric pulmonary center. American Journal of Clinical Hypnosis. 2005; 48(1):45–49. doi: 10.1080/00029157.2005.10401489. [PubMed: 16238171]

Ashton C Jr. Whitworth GC, Seldomridge JA, Shapiro PA, Weinberg AD, Michler RE, Oz MC. Self-hypnosis reduces anxiety following coronary artery bypass surgery. A prospective, randomized trial. Journal of Cardiovascular Surgery. 1997; 38(1):69–75. doi: 10.1089/acm.1995.1.285. [PubMed: 9128126]

Barabasz A, Perez N. Salient findings: hypnotizability as core construct and the clinical utility of hypnosis. International Journal of Clinical and Experimental Hypnosis. 2007; 55(3):372–379. doi: 10.1080/00207140701339793. [PubMed: 17558724]

Barnes, PM.; Bloom, B.; Nahin, RL. Complementary and alternative medicine use among adults and children: United States, 2007. 2008.

Benham, Grant; Woody, EZ.; Wilson, KS.; Nash, MR. Expect the unexpected: Ability, attitude, and responsiveness to hypnosis. Journal of Personality and Social Psychology. 2006; 91(2):342–350. doi: 10.1037/0022-3514.91.2.342. [PubMed: 16881769]

BlueCross BlueShield of Minnesota. Hypnotherapy. Sep. 2013 Retrieved from http://notes.bluecrossmn.com/web/medpolman.nsf/53aa9f34f79f6511862569bd0054b9a6/727c3e1bd2267f0d862567fc007a3b87/$FILE/Hypnotherapy.pdf

Block KI. Cost savings with clinical solutions: the impact of reforming health and health care economics with integrative therapies. Integrative Cancer Therapies. 2010; 9(2):129–135. doi: 10.1177/1534735410373761. [PubMed: 20603903]

Block RI, Ghoneim MM, Sum Ping ST, Ali MA. Efficacy of therapeutic suggestions for improved postoperative recovery presented during general anesthesia. Anesthesiology. 1991; 75(5):746–755. doi: 10.1097/00000542-199111000-00005. [PubMed: 1952199]

Bongartz W. German norms for the Harvard Group Scale of Hypnotic Susceptibility, Form A. International Journal of Clinical and Experimental Hypnosis. 1985; 33:131–140. doi: 10.1080/00207148508406643. [PubMed: 4018922]

Bowen DJ, Sorensen G, Weiner BJ, Campbell M, Emmons K, Melvin C. Dissemination research in cancer control: where are we and where should we go? Cancer Causes Control. 2009; 20(4):473–485. doi: 10.1007/s10552-009-9308-0. [PubMed: 19224380]

Brann LR, Guzvica SA. Comparison of hypnosis with conventional relaxation for antenatal and intrapartum use: a feasibility study in general practice. The Journal of the Royal College of General Practitioners. 1987; 37(303):437–440. [PubMed: 3333169]

Capafons A, Cabañas S, Alarcón A, Espejo B, Mendoza ME, Chaves JF, Monje A. Effects of different types of preparatory information on attitudes toward hypnosis. Contemporary Hypnosis. 2005; 22(2):67–76. doi: 10.1002/ch.25.

Capafons A, Mendoza ME, Espejo B, Green JP, Lopes-Pires C, Selma ML, Carvallho C. Attitudes and beliefs about hypnosis: A multicultural study. Contemporary Hypnosis. 2008; 25(3-4):141–155. doi: 10.1002/ch.359.

Carpenter JS. The Hot Flash Related Daily Interference Scale: a tool for assessing the impact of hot flashes on quality of life following breast cancer. Journal of Pain and Symptom Management. 2001; 22(6):979–989. doi: 10.1016/s0885-3924(01)00353-0. [PubMed: 11738160]

Carpenter JS, Andrykowski MA, Cordova M, Cunningham L, Studts J, McGrath P, Munn R. Hot flashes in postmenopausal women treated for breast carcinoma: prevalence, severity, correlates, management, and relation to quality of life. Cancer. 1998; 82(9):1682–1691. doi: 10.1002/(SICI)1097-0142(19980501)82:9<1682::AIDCNCR14>3.0.CO;2-0. [PubMed: 9576289]

Centers for Medicare and Medicaid Services. Code sets. Oct. 2013 Retrieved from http://www.cms.gov/Regulations-and-Guidance/HIPAA-Administrative-Simplification/TransactionCodeSetsStands/CodeSets.html

Centers for Medicare and Medicaid Services. Physician fee schedule search. Oct. 2013 Retrieved from http://www.cms.gov/apps/physician-fee-schedule/overview.aspx

Chaves, JF. Hypnosis in the health-care setting: Hopes, beliefs and experience.. Paper presented at the 112th American Psychological Association Annual Convention; Honolulu, HI. 2004.

Cohen JA. A power primer. Psychological Bulletin. 1992; 112(1):155–159. doi: 10.1037//0033-2909.112.1.155. [PubMed: 19565683]

Coldrey JC, Cyna AM. Suggestion, hypnosis and hypnotherapy: a survey of use, knowledge and attitudes of anaesthetists. Anaesthesia and Intensive Care. 2004; 32(5):676–680. [PubMed: 15535494]

Curran GM, Bauer M, Mittman B, Pyne JM, Stetler C. Effectiveness-implementation hybrid designs: combining elements of clinical effectiveness and implementation research to enhance public health

impact. Medical Care. 2012; 50(3):217–226. doi: 10.1097/MLR.0b013e3182408812. [PubMed: 22310560]

David D, Montgomery G, Holdevici I. Romanian norms for the Harvard Group Scale of Hypnotic Susceptibility, Form A. International Journal of Clinical and Experimental Hypnosis. 2003; 51(1): 66–76. doi: 10.1076/iceh.51.1.66.14066. [PubMed: 12825919]

de Klerk JE, du Plessis WF, Steyn HS, Botha M. Hypnotherapeutic ego strengthening with male South African coronary artery bypass patients. American Journal of Clinical Hypnosis. 2004; 47(2):79–92. doi: 10.1080/00029157.2004.10403627. [PubMed: 15554461]

Defechereux T, Degauque C, Fumal I, Faymonville ME, Joris J, Hamoir E, Meurisse M. [[Hypnosedation, a new method of anesthesia for cervical endocrine surgery. Prospective randomized study]. Annales de Chirurgie. 2000; 125(6):539–546. [PubMed: 10986765]

DePascalis V, Russo P, Marucci FS. Italian norms for the Harvard Group Scale of Hypnotic Susceptibility, Form A. International Journal of Clinical and Experimental Hypnosis. 2000; 48(1): 44–55. doi: 10.1080/00207140008410360. [PubMed: 10641432]

Dobbin A, Maxwell M, Elton R. A benchmarked feasibility study of a self-hypnosis treatment for depression in primary care. International Journal of Clinical and Experimental Hypnosis. 2009; 57(3):293–318. doi: 10.1080/00207140902881221. [PubMed: 19459090]

Eakin EG, Glasgow RE, Riley KM. Review of primary care-based physical activity intervention studies. Journal of Family Practice. 2000; 49(2):158–68. [PubMed: 10718694]

Elkins G, Marcus J, Stearns V, Perfect M, Rajab MH, Ruud C, Keith T. Randomized trial of a hypnosis intervention for treatment of hot flashes among breast cancer survivors. Journal of Clinical Oncology. 2008; 26(31):5022–5026. doi: 10.1200/jco.2008.16.6389. [PubMed: 18809612]

Elkins GR, Fisher WI, Johnson AK, Carpenter JS, Keith TZ. Clinical hypnosis in the treatment of postmenopausal hot flashes: a randomized controlled trial. Menopause. 2013; 20(3):291–298. doi: 10.1097/GME.0b013e31826ce3ed. [PubMed: 23435026]

Enqvist B, Bjorklund C, Engman M, Jakobsson J. Preoperative hypnosis reduces postoperative vomiting after surgery of the breasts: a prospective, randomized and blinded study. Acta Anaesthesiologica Scandinavica. 1997; 41:1028–1032. doi: 10.1111/j.1399-6576.1997.tb04831.x. [PubMed: 9311402]

Enqvist B, Fischer K. Preoperataive hypnotic techniques reduce consumption of analgesics after surgical removal of third mandibular molars: A brief communication. International Journal of Clinical and Experimental Hypnosis. 1997; 45(2):102–108. [PubMed: 9077048]

Esdaile, J. Hypnosis in medicine and surgery. Julian; New York: 1957. doi: 10.1080/00207149708416112

Farrell-Carnahan L, Ritterband LM, Bailey ET, Thorndike FP, Lord HR, Baum LD. Feasibility and preliminary efficacy of a self-hypnosis intervention available on the web for cancer survivors with insomnia. E-Journal of Applied Psychology. 2010; 6(2) doi: 10.7790/ejap.v6i2.211.

Ferguson, Christopher J. An effect size primer: A guide for clinicians and researchers. Professional Psychology: Research and Practice. 2009; 40(5):532. doi: 10.1037/a0015808.

Fouladbakhsh JM, Stommel M. Comparative analysis of CAM use in the US cancer and noncancer populations. Journal of Complementary and Integrative Medicine. 2008; 5(1) doi: 10.2202/1553-3840.1140.

Freeman, Robert; Barabasz, A.; Barabasz, M.; Warner, D. Hypnosis and Distraction Differ in Their Effects on Cold Pressor Pain. The American Journal of Clinical Hypnosis. 2000; 43(2):137–148. doi: 10.1080/00029157.2000.10404266. [PubMed: 11022363]

Gansler T, Kaw C, Crammer C, Smith T. A population-based study of prevalence of complementary methods use by cancer survivors. Cancer. 2008; 113(5):1048–1057. doi: 10.1002/cncr.23659. [PubMed: 18680170]

Ghoneim MM, Block RI, Sarasin DS, Davis CS, Marchman JN. Tape-recorded hypnosis instructions as adjuvant in the care of patients scheduled for third molar surgery. Anesthesia and Analgesia. 2000; 90(1):64–68. doi: 10.1097/00000539-200001000-00016. [PubMed: 10624980]

Ginandes C, Brooks P, Sando W, Jones C, Aker J. Can medical hypnosis accelerate post-surgical wound healing? Results of a clinical trial. American Journal of Clinical Hypnosis. 2003; 45(4): 333–351. doi: 10.1080/00029157.2003.10403546. [PubMed: 12722936]

Glasgow RE, McKay HG, Piette JD, Reynolds KD. The RE-AIM framework for evaluating interventions: What can it tell us about approaches to chronic illness management? Patient Education and Counseling. 2001; 44(2):119–127. doi: 10.1016/S0738-3991(00)00186-5. [PubMed: 11479052]

Glasgow RE, Vogt TM, Boles SM. Evaluating the public health impact of health promotion interventions: the RE-AIM framework. American Journal of Public Health. 1999; 89(9):1322–1327. doi: 10.2105/AJPH.89.9.1322. [PubMed: 10474547]

Goff JM, Molloy M, Debbas MT, Hale DA, Jaques DP. Long-term impact of previous breast biopsy on breast cancer screening modalities. Journal of Surgical Oncology. 1995; 59(1):18–20. doi: 10.1002/jso.2930590106. [PubMed: 7745971]

Goldmann L, Ogg TW, Levey AB. Hypnosis and daycase anaesthesia. A study to reduce pre-operative anxiety and intra-operative anaesthetic requirements. Anaesthesia. 1988; 43(6):466–469. doi: 10.1111/j.1365-2044.1988.tb06633.x. [PubMed: 3136676]

Graham RE, Ahn AC, Davis RB, O'Connor BB, Eisenberg DM, Phillips RS. Use of complementary and alternative medical therapies among racial and ethnic minority adults: results from the 2002 National Health Interview Survey. Journal of the National Medical Association. 2005; 97:535–545. [PubMed: 15868773]

Greenleaf M, Fisher S, Miaskowki C, DuHamel K. Hypnotizability and recovery from cardiac surgery. American Journal of Clinical Hypnosis. 1992; 35:119–128. doi: 10.1080/00029157.1992.10402994. [PubMed: 1442643]

Hammond DC. Review of the efficacy of clinical hypnosis with headaches and migraines. International Journal of Clinical and Experimental Hypnosis. 2007; 55(2):207–219. doi: 10.1080/00207140601177921. [PubMed: 17365074]

Hart RR. The influence of a taped hypnotic induction treatment procedure on the recovery of surgery patients. International Journal of Clinical and Experimental Hypnosis. 1980; 28(4):324–332. doi: 10.1080/00207148008409861. [PubMed: 7409927]

Hermes D, Hakim SG, Sieg P. Acceptance of medical hypnosis by oral and maxillofacial patients. International Journal of Clinical and Experimental Hypnosis. 2004; 52(4):389–399. doi: 10.1080/00207140490886227. [PubMed: 15590506]

Hilgard, ER. Hypnotic Susceptibility. Brace and Wared; New York: 1965.

Hilgard, ER. A neodissociation interpretation of hypnosis.. In: Lynn, SJ.; Rhue, JW., editors. Theories of hypnosis: Current models and perspectives. Guilford Press; New York: 1991. p. 83-104.

Integration of behavioral and relaxation approaches into the treatment of chronic pain and insomnia. NIH Technology Assessment Panel on Integration of Behavioral and Relaxation Approaches into the Treatment of Chronic Pain and Insomnia. Journal of the American Medical Association. 1996; 276(4):313–318. doi: 10.1001/jama.276.4.313. [PubMed: 8656544]

Jensen MP, Ehde DM, Gertz KJ, Stoelb BL, Dillworth TM, Hirsh AT, Kraft GH. Effects of self-hypnosis training and cognitive restructuring on daily pain intensity and catastrophizing in individuals with multiple sclerosis and chronic pain. International Journal of Clinical and Experimental Hypnosis. 2011; 59(1):45–63. doi: 10.1080/00207144.2011.522892. [PubMed: 21104484]

Jilcott S, Alice Ammerman Dr PH RD, Sommers J, Glasgow RE. Applying the RE-AIM framework to assess the public health impact of policy change. Annals of Behavioral Medicine. 2007; 34(2): 105–114. doi: 10.1007/BF02872666. [PubMed: 17927550]

John ME, Parrino JP. Practical hypnotic suggestion in ophthalmic surgery. American Journal of Ophthalmology. 1983; 96:540–542. [PubMed: 6624836]

Johnson ME, Hauck C. Beliefs and opinions about hypnosis held by the general public: a systematic evaluation. American Journal of Clinical Hypnosis. 1999; 42(1):10–20. doi: 10.1080/00029157.1999.10404241. [PubMed: 10570849]

Kallio SI, Ihamuotila MJ. Finnish norms of the Harvard Group Scale of Hypnotic Susceptibility, Form A. Internal Journal of Clinical and Experimental Hypnosis. 1999; 47:227–235. doi: 10.1080/00207149908410034.

Kirsch, I. The social learning theory of hypnosis.. In: Lynn, SJ.; Rhue, JW., editors. Theories of hypnosis: Current models and perspectives. The Guilford Press; New York: 1991. p. 439-465.

Kirsch I, Lynn SJ. The altered state of hypnosis: Changes in the theoretical Landscape. American Psychologist. 1995; 50(10):846–858. doi: 10.1037/0003-066x.50.10.846.

Kirsch I, Montgomery G, Sapirstein G. Hypnosis as an adjunct to cognitive-behavioral psychotherapy: A meta-analysis. Journal of Consulting and Clinical Psychology. 1995; 63:214–220. doi: 10.1037/0022-006x.63.2.214. [PubMed: 7751482]

Kocher R, Emanuel EJ, DeParle NA. The Affordable Care Act and the future of clinical medicine: the opportunities and challenges. Annals of Internal Medicine. 2010; 153(8):536–539. doi: 10.7326/0003-4819-153-8-201010190-00274. [PubMed: 20733178]

Kohen, Daniel P.; Zajac, Robert. Self-hypnosis training for headaches in children and adolescents. The Journal of Pediatrics. 2007; 150(6):635–639. doi: 10.1016/j.jpeds.2007.02.014. [PubMed: 17517250]

Kosslyn SM, Thompson WL, Costantini-Ferrando MF, Alpert NM. Hypnotic visual illusion alters color processing in the brain. American Journal of Psychiatry. 2000; 157(8):1279–1284. al., et. doi: 10.1176/appi.ajp.157.8.1279. [PubMed: 10910791]

Lamas JR, delValle-Inclan F, Blanco MJ, Diaz AA. Spanish norms for the Harvard Group Scale of Hypnotic Susceptibility, Form A. Internal Journal of Clinical and Experimental Hypnosis. 1989; 37:264–273. doi: 10.1080/00207148908414477.

Lamb MA. Effects of cancer on the sexuality and fertility of women. Seminars in Oncology Nursing. 1995; 11(2):120–127. doi: 10.1016/s0749-2081(05)80019-1. [PubMed: 7604190]

Lang EV, Berbaum KS, Pauker SG, Faintuch S, Salazar GM, Lutgendorf S, Spiegel D. Beneficial effects of hypnosis and adverse effects of empathic attention during percutaneous tumor treatment: when being nice does not suffice. Journal of Vascular and Interventional Radiology. 2008; 19(6): 897–905. doi: 10.1016/j.jvir.2008.01.027. [PubMed: 18503905]

Lang EV, Benotsch EG, Fick LJ, Lutgendorf S, Berbaum ML, Berbaum KS, Spiegel D. Adjunctive non-pharmacological analgesia for invasive medical procedures: a randomised trial. Lancet. 2000; 355(9214):1486–1490. doi: 10.1016/s0140-6736(00)02162-0. [PubMed: 10801169]

Lang EV, Berbaum KS, Faintuch S, Hatsiopoulou O, Halsey N, Li X, Baum J. Adjunctive self-hypnotic relaxation for outpatient medical procedures: A prospective randomized trial with women undergoing large core breast biopsy. Pain. 2006; 126:155–164. doi: 10.1016/j.pain.2006.06.035. [PubMed: 16959427]

Lang EV, Joyce JS, Spiegel D, Hamilton D, Lee KK. Self-hypnotical relaxation during interventional radiological procedures: effects on pain perception and intravenous drug use. International Journal of Clinical and Experimental Hypnosis. 1996; 44(2):106–119. doi: 10.1080/00207149608416074. [PubMed: 8871338]

Lang EV, Rosen MP. Cost analysis of adjunct hypnosis with sedation during outpatient interventional radiologic procedures. Radiology. 2002; 222:375–382. doi: 10.1148/radiol.2222010528. [PubMed: 11818602]

Laurence JR, Perry C. Montreal norms for the Harvard Group Scale of Hypnotic Susceptibility, Form A. International Journal of Clinical and Experimental Hypnosis. 1982; 30(2):167–176. doi: 10.1080/00207148208407381. [PubMed: 7085138]

Liossi C, Hatira P. Clinical hypnosis versus cognitive behavioral training for panic management with pediatric cancer patients undergoing bone marrow aspirations. International Journal of Clinical and Experimental Hypnosis. 1999; 47(2):104–116. doi: 10.1080/00207149908410025. [PubMed: 10208073]

Lynn, SJ.; Kirsch, I.; Hallquist, MN. Social cognitive theories of hypnosis.. In: Nash, MR.; Barnier, AJ., editors. The Oxford handbook of hypnosis: Theory, research, and practice. Oxford University Press; New York, NY, US: 2008. p. 111-140.

Lynn SJ, Martin DJ, Frauman DC. Does hypnosis pose special risks for negative effects? International Journal of Clinical and Experimental Hypnosis. 1996; 44(1):7–19. doi: 10.1080/00207149608416064. [PubMed: 8582780]

Mackey EF. Effects of hypnosis as an adjunct to intravenous sedation for third molar extraction: a randomized, blind, controlled study. International Journal of Clinical and Experimental Hypnosis. 2010; 58(1):21–38. doi: 10.1080/00207140903310782. [PubMed: 20183736]

Marc I, Rainville P, Masse B, Verreault R, Vaillancourt L, Vallee E, Dodin S. Hypnotic analgesia intervention during first-trimester pregnancy termination: an open randomized trial. American Journal of Obstetrics and Gynecology. 2008; 199(5):469.e461–469. doi: 10.1016/j.ajog.2008.01.058. [PubMed: 18377854]

Mauer MH, Burnett KF, Ouellette EA, Ironson GH, Dandes HM. Medical Hypnosis and Orthopedic Hand Surgery. International Journal of Clinical and Experimental Hypnosis. 1999; 47(2):144–161. doi: 10.1080/00207149908410027. [PubMed: 10208075]

McHugh RK, Barlow DH. The dissemination and implementation of evidence-based psychological treatments: A review of current efforts. American Psychologist. 2010; 65(2):73–84. doi: 10.1037/a0018121. [PubMed: 20141263]

Melis, Patricia ML.; Rooimans, Wilma; Spierings, Egilius LH.; Hoogduin, Cornelis AL. Treatment of Chronic Tension-type Headache With Hypnotherapy: A Single-blind Time Controlled Study. Headache: The Journal of Head and Face Pain. 1991; 31(10):686–689. doi: 10.1111/j.1526-4610.1991.hed3110686.x.

Milling LS. Is high hypnotic suggestibility necessary for successful hypnotic pain intervention? Current Pain and Headache Reports. 2008; 12(2):98–102. doi: 10.1007/s11916-008-0019-0. [PubMed: 18474188]

Milling LS, Costantino CA. Clinical hypnosis with children: first steps toward empirical support. International Journal of Clinical and Experimental Hypnosis. 2000; 48(2):113–137. doi: 10.1080/00207140008410044. [PubMed: 10769980]

Milling LS, Shores JS, Coursen EL, Menario DJ, Farris CD. Response expectancies, treatment credibility, and hypnotic suggestibility: mediator and moderator effects in hypnotic and cognitive-behavioral pain interventions. Annals of Behavorial Medicine. 2007; 33(2):167–178. doi: 10.1007/bf02879898.

Molina, José Antonio; Mendoza, M Elena. Change of attitudes towards hypnosis after a training course. Australian Journal of Clinical and Experimental Hypnosis. 2006; 34(2):146.

Montgomery GH, Bovbjerg DH. Presurgery distress and specific response expectancies predict postsurgery outcomes in surgery patients confronting breast cancer. Health Psychology. 2004; 23(4):381–387. doi: 10.1037/0278-6133.23.4.381. [PubMed: 15264974]

Montgomery GH, Bovbjerg DH, Schnur JB, David D, Goldfarb A, Weltz CR, Silverstein JH. A randomized clinical trial of a brief hypnosis intervention to control side effects in breast surgery patients. Journal of the National Cancer Institute. 2007; 99(17):1304–1312. doi: 10.1093/jnci/djm106. [PubMed: 17728216]

Montgomery GH, Schnur JB, David D. The impact of hypnotic suggestibility in clinical care settings. International Journal of Clinical and Experimental Hypnosis. 2011; 59(3):294–309. doi: 10.1080/00207144.2011.570656. [PubMed: 21644122]

Montgomery GH, Schnur JB, Kravits K. Hypnosis for cancer care: over 200 years young. CA: A Cancer Journal for Clinicians. 2013; 63(1):31–44. doi: 10.3322/caac.21165. [PubMed: 23168491]

Montgomery GH, David D, Kangas M, Green S, Sucala M, Bovbjerg D, Schnur JB. A randomized clinical trial of a cognitive-behavioral therapy plus hypnosis intervention to control fatigue in breast cancer radiotherapy patients. Journal of Clinical Oncology. 2014 doi: 10.1200/jco.2013.49.3437.

Montgomery GH, David D, Winkel G, Silverstein JH, Bovbjerg DH. The effectiveness of adjunctive hypnosis with surgical patients: A meta-analysis. Anesthesia and Analgesia. 2002; 94(6):1639–1645. doi: 10.1097/00000539-200206000-00052. [PubMed: 12032044]

Montgomery GH, DuHamel KN, Redd WH. A meta-analysis of hypnotically induced analgesia: how effective is hypnosis? International Journal of Clinical and Experimental Hypnosis. 2000; 48(2):138–153. doi: 10.1080/00207140008410045. [PubMed: 10769981]

Montgomery GH, Hallquist MN, Schnur JB, David D, Silverstein JH, Bovbjerg DH. Mediators of a brief hypnosis intervention to control side effects in breast surgery patients: Response expectancies and emotional distress. Journal of Consulting and Clinical Psychology. 2010; 78(1):80–88. doi: 10.1037/a0017392. [PubMed: 20099953]

Montgomery GH, Kangas M, David D, Hallquist MN, Green S, Bovbjerg DH, Schnur JB. Fatigue during breast cancer radiotherapy: An initial randomized study of CBT plus hypnosis. Health Psychology. 2009; 28(3):317–322. doi: 10.1037/a0013582. [PubMed: 19450037]

Montgomery GH, Weltz CR, Seltz G, Bovbjerg DH. Brief pre-surgery hypnosis reduces distress and pain in excisional breast biopsy patients. International Journal of Clinical and Experimental Hypnosis. 2002; 50(1):17–32. doi: 10.1080/00207140208410088. [PubMed: 11778705]

Morgan, Arlene H.; Hilgard, Ernest R. Age differences in susceptibility to hypnosis. International Journal of Clinical and Experimental Hypnosis. 1973; 21(2):78–85.

Moser G, Tragner S, Gajowniczek EE, Mikulits A, Michalski M, Kazemi-Shirazi L, Miehsler W. Long-term success of GUT-directed group hypnosis for patients with refractory irritable bowel syndrome: a randomized controlled trial. The American Journal of Gastroenterology. 2013; 108(4):602–609. doi: 10.1038/ajg.2013.19. [PubMed: 23419384]

Patterson DR. Practical applications of psychological techniques in controlling burn pain. Journal of Burn Care and Research. 1992; 13(1):13–18. doi: 10.1097/00004630-199201000-00005.

Patterson DR, Jensen MP. Hypnosis and clinical pain. Psychological Bulletin. 2003; 129(4):495–521. doi: 10.1037/0033-2909.129.4.495. [PubMed: 12848218]

Patterson DR, Ptacek JT. Baseline pain as a moderator of hypnotic analgesia for burn injury treatment. Journal of Consulting and Clincal Psychology. 1997; 65(1):60–67. doi: 10.1037/0022-006x.65.1.60.

Peters DH, Adam T, Alonge O, Agyepong IA, Tran N. Implementation research: what it is and how to do it. BMJ. 2013; 347:f6753. doi: 10.1136/bmj.f6753. [PubMed: 24259324]

Proctor E, Silmere H, Raghavan R, Hovmand P, Aarons G, Bunger A, Hensley M. Outcomes for implementation research: conceptual distinctions, measurement challenges, and research agenda. Administration and Policy in Mental Health. 2011; 38(2):65–76. doi: 10.1007/s10488-010-0319-7. [PubMed: 20957426]

Proctor EK, Landsverk J, Aarons G, Chambers D, Glisson C, Mittman B. Implementation research in mental health services: an emerging science with conceptual, methodological, and training challenges. Administration and Policy in Mental Health. 2009; 36(1):24–34. doi: 10.1007/s10488-008-0197-4. [PubMed: 19104929]

Redd WH, Montgomery GH, DuHamel KN. Behavioral intervention for cancer treatment side-effects. Journal of National Cancer Institute. 2001; 93(11):810–823. doi: 10.1093/jnci/93.11.810.

Reid, DB. Hypnosis for behavioral health: Professional's guide to expanding your practice. Springer Publishing Company; New York, NY: 2012.

Rhue, JW.; Lynn, SJ.; Kirsch, I. Handbook of Clinical Hypnosis.. In: Rhue, JW.; Lynn, SJ.; Kirsch, I., editors. American Psychological Association; Washington, DC: 1993.

Richardson J, Smith JE, McCall G, Richardson A, Pilkington K, Kirsch I. Hypnosis for nausea and vomiting in cancer chemotherapy: a systematic review of the research evidence. Eurpoean Journal of Cancer Care. 2007; 16(5):402–412. doi: 10.1111/j.1365-2354.2006.00736.x.

Rutten JM, Reitsma JB, Vlieger AM, Benninga MA. Gut-directed hypnotherapy for functional abdominal pain or irritable bowel syndrome in children: a systematic review. Archives of Disease in Childhood. 2013; 98(4):252–257. doi: 10.1136/archdischild-2012-302906. [PubMed: 23220208]

Sapp M, Hitchcock K. Harvard group scale with African American college students. Sleep and Hypnosis. 2001; 3(3):120–126.

Schnur JB, Bovbjerg DH, David D, Tatrow K, Goldfarb AB, Silverstein JH, Montgomery GH. Hypnosis decreases presurgical distress in excisional breast biopsy patients. Anesthesia and Analgesia. 2008; 106(2):440–444. doi: 10.1213/ane.0b013e31815edb13. [PubMed: 18227298]

Schnur JB, David D, Kangas M, Green S, Bovbjerg DH, Montgomery GH. A randomized trial of a cognitive-behavioral therapy and hypnosis intervention on positive and negative affect during

breast cancer radiotherapy. Journal of Clinical Psychology. 2009; 65:443–455. doi: 10.1002/jclp.20559. [PubMed: 19226611]

Schnur JB, Kafer I, Marcus C, Montgomery GH. Hypnosis to manage distress related to medical procedures: A meta-analysis. Contemporary Hypnosis. 2008; 25:114–128. doi: 10.1002/ch.364. [PubMed: 19746190]

Schoenberger NE, Kirsch I, Gearan P, Montgomery GH, Pastyrnak SL. Hypnotic enhancement of a cognitive behavioral treatment for public speaking anxiety. Behavior Therapy. 1997; 28:127–140. doi: 10.1016/s0005-7894(97)80038-x.

Sheehan PW, McConkey KM. Australian norms for the Harvard Group Scale of Hypnotic Susceptibility, form A. International Journal of Clinical and Experimental Hypnosis. 1979; 27(3):294–304. doi: 10.1080/00207147908407568. [PubMed: 541138]

Snow A, Dorfman D, Warbet R, Cammarata M, Eisenman S, Zilberfein F, Navada S. A randomized trial of hypnosis for relief of pain and anxiety in adult cancer patients undergoing bone marrow procedures. Journal of Psychosocial Oncology. 2012; 30(3):281–293. doi: 10.1080/07347332.2012.664261. [PubMed: 22571244]

Sohl SJ, Stossel L, Schnur JB, Tatrow K, Gherman A, Montgomery GH. Intentions to use hypnosis to control the side effects of cancer and its treatment. American Journal of Clinical Hypnosis. 2010; 53(2):93–100. doi: 10.1080/00029157.2010.10404331. [PubMed: 21049742]

Spanos, NP. A sociocognitive approach to hypnosis.. In: Lynn, SJ.; Rhue, JW., editors. Theories of hypnosis: Current models and perspectives. The Guilford Press; New York: 1991. p. 324-361.

Spiegel D. The use of hypnosis in controlling cancer pain. A Cancer Journal for Clinicians. 1985; 35:221–131. doi: 10.3322/canjclin.35.4.221.

Spiegel D, Bloom JR. Group therapy and hypnosis reduce metastatic breast carcinoma pain. Psychosomatic Medicine. 1983; 45:333–339. doi: 10.1016/0304-3959(85)90209-x. [PubMed: 6622622]

Spiegel, H.; Spiegel, D. Trance and treatment: Clinical uses of hypnosis. American Psychiatric Press; Washington, DC: 1978.

Stalpers LJ, da Costa HC, Merbis MA, Fortuin AA, Muller MJ, van Dam FS. Hypnotherapy in radiotherapy patients: a randomized trial. International Journal of Radiation Oncology, Biology, Physics. 2005; 61(2):499–506. doi: 10.1016/j.ijrobp.2004.06.005.

Sucala M, Schnur JB, Glazier K, Miller SJ, Green JP, Montgomery GH. Hypnosis--there's an app for that: a systematic review of hypnosis apps. International Journal of Clinical and Experimental Hypnosis. 2013; 61(4):463–474. doi: 10.1080/00207144.2013.810482. [PubMed: 23957263]

Tefikow S, Barth J, Maichrowitz S, Beelmann A, Strauss B, Rosendahl J. Efficacy of hypnosis in adults undergoing surgery or medical procedures: A meta-analysis of randomized controlled trials. Clinical Psychology Review. 2013; 33(5):623–636. doi: 10.1016/j.cpr.2013.03.005. [PubMed: 23628907]

Thomson, Linda. A project to change the attitudes, beliefs and practices of health professionals concerning hypnosis. American Journal of Clinical Hypnosis. 2003; 46(1):31–44. doi: 10.1080/00029157.2003.10403563. [PubMed: 12894929]

Tome-Pires C, Miro J. Hypnosis for the management of chronic and cancer procedure-related pain in children. International Journal of Clinical and Experimental Hypnosis. 2012; 60(4):432–457. doi: 10.1080/00207144.2012.701092. [PubMed: 22917107]

Walling DP, Baker JM, Dott SG. Scope of hypnosis education in academia: results of a national survey. International Journal of Clinical and Experimental Hypnosis. 1998; 46(2):150–156. doi: 10.1080/00207149808409996. [PubMed: 9558804]

Wark DM. Alert hypnosis: a review and case report. American Journal of Clinical Hypnosis. 2006; 48(4):291–300. doi: 10.1080/00029157.2006.10401536. [PubMed: 16696560]

Whitehead WE. Hypnosis for irritable bowel syndrome: the empirical evidence of therapeutic effects. International Journal of Clinical and Experimental Hypnosis. 2006; 54(1):7–20. doi: 10.1080/00207140500328708. [PubMed: 16316880]

Wilson S, Maddison T, Roberts L, Greenfield S, Singh S. Systematic review: the effectiveness of hypnotherapy in the management of irritable bowel syndrome. Alimentary Pharmacology and

Therapeutics. 2006; 24(5):769–780. doi: 10.1111/j.1365-2036.2006.03028.x. [PubMed: 16918880]

Woody, EZ.; Bowers, KS. A frontal assault on dissociated control.. In: Lynn, SJ.; Rhue, JW., editors. Dissociation: Clinical and theoretical perspectives. Guilford Press; New York, NY, US: 1994. p. 52-79.

Woody, EZ.; Sadler, P. Dissociation theories of hypnosis.. In: Nash, MR.; Barnier, AJ., editors. The Oxford handbook of hypnosis: Theory, research, and practice. Oxford University Press; New York, NY, US: 2008. p. 81-110.

Wright BR, Drummond PD. Rapid induction analgesia for the alleviation of procedural pain during burn care. Burns. 2000; 26(3):275–282. doi: 10.1016/s0305-4179(99)00134-5. [PubMed: 10741595]

Zachariae R, Sommerlund B, Molay F. Danish norms of the Harvard Group Scale of Hypnotic Susceptibility, Form A. International Journal of Clinical and Experimental Hypnosis. 1996; 44:140–152. doi: 10.1080/00207149608416076. [PubMed: 8871340]