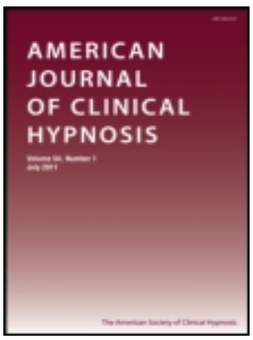

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Are Anesthesia Providers Ready for Hypnosis? Anesthesia Providers' Attitudes Toward Hypnotherapy

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This study sought to measure current attitudes toward hypnosis among anesthesia providers using an in-person survey distributed at a single grand rounds at a single academic teaching hospital. One hundred twenty-six anesthesia providers (anesthesiologists and nurse anesthetists) were included in this study. A 10-question Institutional Review Board (IRB)-approved questionnaire was developed. One hundred twenty-six (73% of providers at the meeting) anesthesia providers completed the survey. Of the respondents, 54 (43%) were anesthesiologists, 42 (33%) were trainees (interns/residents/fellows) in anesthesia, and 30 (24%) were nurse anesthetists. Over 70% of providers, at each level of training, rated their knowledge of hypnosis as either below average or having no knowledge. Fifty-two (42%) providers agreed or strongly agreed that hypnotherapy has a place in the clinical practice of anesthesia, while 103 (83%) believed that positive suggestion has a place in the clinical practice of anesthesia ($p < .0001$). Common reasons cited against using hypnosis were that it is too time consuming (41%) and requires special training (34%). Only three respondents (2%) believed that there were no reasons for using hypnosis in their practice. These data suggest that there is a self-reported lack of knowledge about hypnosis among anesthesia providers, although many anesthesia providers are open to the use of hypnosis in their clinical practice. Anesthesia providers are more likely to support the use of positive suggestion in their practice than hypnosis. Practical concerns should be addressed if hypnosis and therapeutic verbal techniques are to gain more widespread use.

Keywords: anesthesiologists' attitudes, hypnosis, perioperative communication, survey

Clinical hypnotherapy is the use of specific words and gestures to encourage a state of focused attention where a patient is receptive to change (American Psychological Association, n.d.). While a patient is in this state of focused attention a clinical hypnotherapist gives the patient positive suggestions. The positive suggestions encourage the patient to focus on beneficial results specific to the particular disease process being addressed.

Recent meta-analyses summarize the current evidence that clinical hypnotherapy and positive suggestion benefit patients undergoing surgery specifically with respect to

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postoperative measures of anxiety, pain intensity, pain medication requirement, and nausea (Kekecs, Nagy, & Varga, 2014; Montgomery, David, Winkel, Silverstein, & Bovbjerg, 2002; Schnur, Kafer, Marcus, & Montgomery, 2008; Tefikow et al., 2013). Additionally, multiple systematic reviews have found varying degrees of support for the use of pre-surgical hypnosis on post-operative outcome measures (Nelson et al., 2013) particularly in breast cancer procedures (Cramer et al., 2015; Schnur, Bovbjerg et al., 2008). Randomized trials have shown that clinical hypnotherapy reduces anxiety, and needle phobia and increases peri-operative analgesia in both adults and children (Birnie et al., 2014; Fortier et al., 2010; Lew, Kravits, Garberoglio, & Williams, 2011; Saadat et al., 2006; Wobst, 2007).

Hypnosis has also been found to be particularly effective in managing procedure-related pain and distress in pediatric cancer patients (Richardson, Smith, McCall, & Pilkington, 2006). A randomized trial comparing pre-medication with hypnosis to midazolam in pediatric patients found a decrease in post hospitalization behavioral disorders in the hypnosis group (Calipel, Lucas-Polomeni, Wodey, & Ecoffey, 2005). A cost analysis of hypnosis during interventional radiology procedures concluded that hypnosis reduces the overall costs of vascular and renal interventional procedures by $338 per case (Lang & Rosen, 2002). Similarly the use of clinical hypnosis prior to breast cancer surgery reduced time spent in the operating room by almost 11 minutes and resulting surgical costs were reduced by about $773 per patient (Montgomery et al., 2007).

Patient suggestibility dramatically affects hypnosis effects. It is well documented that patient expectancies affect post-surgical outcomes in patients undergoing peri-operative hypnosis (Montgomery et al., 2010). It is important to manage the expectations of patients undergoing procedures prior to the procedure. Warning patients undergoing interventional procedures in terms of pain or undesirable experiences resulted in greater pain and greater anxiety than not doing so (Lang et al., 2005). Also important to outcomes is provider intention (Benedetti, Lanotte, Lopiano, & Colloca, 2007; Lang et al., 2008). A potential barrier to applying clinical hypnotherapy and positive suggestion in the perioperative setting are misconceptions and prejudices held by healthcare professionals against hypnosis.

The majority of research on hypnosis has focused on whether or not clinical hypnotherapy is effective. Few groups have examined how practitioners' attitudes toward "hypnosis" influence the incorporation of hypnotherapeutic techniques into a clinical setting. A study of anesthesia providers' attitudes in Australia revealed that many anesthesia providers support the use of clinical hypnotherapy within their practice (Coldrey & Cyna, 2004). This study also showed that previous experience with hypnotherapy had a positive effect on the practitioners' attitudes toward hypnotherapy. The only other report of anesthesia providers' attitudes toward hypnotherapy showed that anesthesia providers were more likely to use hypnotherapy techniques with improved knowledge about its value (Scott, 1984).

There is progress in developing methods that educate providers on introducing effective hypnotherapeutic techniques into clinical practices. An observational study of communication during the induction of pediatric anesthesia found that anesthesiologists naturally employed therapeutic communication techniques, however, they made inadvertently negative suggestions during 17% of the observed inductions (Carlyle, Ching, & Cyna, 2008). Even without full or formal hypnosis training, a basic knowledge of hypnotic techniques can improve anesthesia providers' communication skills.

To our knowledge there have been no previous studies that measure anesthesia providers' attitudes toward hypnosis in the United States and how these attitudes influence the use of clinical hypnotherapy in anesthetic practice. This study will attempt to gauge the awareness and attitudes toward hypnosis among anesthesia providers at an American academic teaching hospital as well as any barriers as to why it is not used.

Methods

Modification of a previous survey of anesthesia providers' attitudes to hypnotherapy generated the questionnaire used in this cohort analysis (Coldrey & Cyna, 2004). Questions were designed to elucidate providers' previous exposure to hypnosis and attitudes toward clinical hypnosis and positive suggestion. A pilot survey of five volunteers was conducted using the questionnaire specifically assessing for wording clarity and validity of the questions. Changes were made to the questionnaire based on this pilot data.

The final survey was administered to all faculty, fellows, and residents present at a single anesthesia grand rounds. With the permission of the anesthesia department, two researchers distributed paper copies of the questionnaires before the grand rounds and collected the responses afterward. A cover sheet was attached to the survey explaining the project. As incentive, participants were given the opportunity to be entered into a drawing for an Apple iPad. Responses were anonymous and results were kept separated from raffle entry sheets.

Proportion was used to describe data distribution, and Chi square and Fisher's exact test (FET) to compare differences between groups. Tests of significance were two-tailed, with an alpha level of 0.05. We performed analyses using STATA 13 (Stata Corp, College Station, TX). This study was approved by the Johns Hopkins Institutional Review Board.

Results

Of the 175 anesthesia providers who attended the grand rounds, 126 (73%) responses were received. Fifty-five (44%) of the responses were from anesthesiology attendings, 41 (33%) from anesthesiology trainees (residents and fellows), and 30 (24%) from nurse

anesthetists. Respondents ranged in age from 26 to 76 and consisted of 57 males (45%) and 69 females (55%). Further information characterizing the study population is found in Table 1. Attendings, trainees, and nurse anesthetists did not differ in their self-rated knowledge of hypnosis (p = .159; FET). Twelve attendings (22%), 6 trainees (15%), and 7 nurse anesthetists (23%) rated their knowledge of hypnosis as average or above average versus below average or no knowledge (Table 2).

When participants were asked to rate their level of agreement with the following phrases—"hypnotherapy has a place in the practice of clinical anesthesia," and "positive suggestion has a place in the practice of clinical anesthesia"—distributions of responses were significantly different ($\chi^2_{(4,\ 126)} = 61.36$, $p < .0001$). Fifty-three participants (42%) agreed or strongly agreed with hypnotherapy's place in practice, whereas 105 (83%) agreed or strongly agreed with positive suggestion. Fifty-nine participants (46%) did not know whether hypnotherapy had a place in the practice of clinical anesthesia, and 14 (11%) did not know whether positive suggestion had a place (Table 3).

TABLE 1
Age, Gender, and Level of Training of Respondents

Age	n *(%)*
≤29	16 (13)
30–39	50 (40)
40–49	23 (19)
≥50	35 (28)
Gender	
Male	57 (45)
Female	69 (55)
Training	
Anesthesiologist (attending)	55 (44)
Anesthesiologist trainee (resident/fellow)	41 (33)
Nurse anesthetist	30 (24)

TABLE 2
Reported Knowledge of Hypnosis

	*Anesthesiologist (*n = *55),* n *(%)*	*Anesthesiologist trainee (*n = *41),* n *(%)*	*Nurse anesthetist (*n = *30),* n *(%)*
Above average	3 (5)	1 (2)	1 (3)
Average	9 (16)	5 (12)	6 (20)
Below average	18 (33)	12 (29)	16 (53)
No knowledge	25 (45)	23 (56)	7 (23)

TABLE 3
Hypnotherapy versus Positive Suggestion in Clinical Anesthesia

	Strongly disagree, n *(%)*	*Disagree,* n *(%)*	*Agree,* n *(%)*	*Strongly agree,* n *(%)*	*Do not know,* n *(%)*	
Hypnotherapy has a place in the clinical practice of anesthesia	3 (2)	12 (10)	42 (33)	11 (9)	59 (46)	$\chi^2_{(4, 126)} = 61.36$, $p < .0001$
Positive suggestion has a place in the clinical practice of anesthesia	6 (5)	2 (2)	57 (45)	48 (38)	14 (11)	

Respondents were asked to select (one or multiple) common reasons for not using hypnosis in their clinical practice. Fifty-two (41%) believed that hypnosis would be too time consuming, and 43 (34%) reported that hypnosis would require special training. Thirty-one (25%) responded that hypnosis was ineffective, and 27 (21%) believed that it would not be accepted by their patients. Twenty (16%) believed it had limited application, 13 (10%) believed it would affect the ability to obtain informed consent, and 6 (5%) believed that hypnosis was dangerous.

Providers were also asked about different clinical scenarios where hypnosis may be used. Sixty-three (50%) of providers believed that hypnosis was useful or very useful for analgesia in labor, 75 (60%) believed that hypnosis was useful or very useful for needle phobia, 67 (54%) believed that hypnosis was useful or very useful for chronic pain patients, and 64 (51%) believed that hypnosis was useful or very useful for adjunct analgesia for small procedures. Three participants (2%) responded that there were no valid reasons for using hypnosis or positive suggestion in their practice.

Forty-eight (48) of participants said that they had no previous exposure to hypnosis. Twenty-six participants, reported having personal exposure to therapeutic hypnotherapy, 26 had witnessed clinical hypnotherapy, 17 had some training in hypnotherapy, and 39 had witnessed hypnotherapy as entertainment. The type of exposure did not affect whether the participant reported a positive, negative or no effect of the experience on their attitude toward hypnotherapy ($p = .657$ FET).

Discussion

This study is the first known survey of anesthesia providers' attitudes toward hypnotherapy conducted in the United States. Results from a previous study undertaken over a decade ago in southern Australia (Coldrey & Cyna, 2004) resulted in a slightly higher percentage of respondents that thought that hypnotherapy has a place in clinical anesthesia (48% versus 42%). Additionally, the previous Australian study found that previous exposure to hypnosis used in a therapeutic setting rather than as entertainment significantly improved

reported attitudes toward hypnosis. In contrast, this study failed to show a significant effect of previous exposure to therapeutic hypnosis versus hypnosis for entertainment. Most anesthesia providers report a lack of knowledge with hypnosis. Over 70% providers reported their knowledge of hypnosis as below average or having no knowledge.

This is the first study to measure the effect of the word hypnosis on anesthesia providers. The word "hypnosis" had an influence on anesthesia providers' attitudes. Only 42% of respondents agreed or strongly agreed with the phrase "hypnotherapy has a place in the clinical practice of anesthesia." However, 83% of respondents agreed or strongly agreed with the phrase "positive suggestion has a place in the clinical practice of anesthesia." In contrast, only 2% of the surveyed anesthesia providers believed that there were no valid reasons against using hypnosis in their practice. Given that positive suggestion is employed in clinical hypnosis (Kirsch, 1994), this is somewhat counter-intuitive, or may be demonstrative of the lack of knowledge regarding clinical hypnosis techniques. In trying to delineate the potential barriers to clinical hypnosis, it was apparent that the two most common reasons cited against using hypnosis were practical concerns: that it takes too much time and that it requires special training. The next two most common reasons for not using hypnosis were questions about its efficacy; "it is ineffective" and "it would not be accepted by my patients." Safety was not a common concern with only six (5%) of anesthesia providers reporting that they thought hypnosis was dangerous.

To date, most of the perioperative hypnosis literature has focused on demonstrating efficacy. While active research in this area continues to be important, we feel that it will be equally important to demonstrate that hypnosis can be feasibly applied to the perioperative setting. In addition, anesthesia providers were significantly more likely to support the use of hypnosis techniques in clinical practice when phrasing like "positive suggestion" was used instead of "clinical hypnotherapy." The effect of this type of language describing verbal therapeutic techniques on anesthesiologists and patients warrants more investigation.

This study has a number of limitations. The results come from a single academic research hospital. The findings may not be representative of other anesthesia providers at other academic medical centers or hospitals. Additionally, due to nurses not frequenting grand rounds, nurses were underrepresented. Future studies will make a better effort to include them.

The results of this survey suggest that many anesthesia providers are open to using some aspects of hypnosis and hypnosis-like techniques in their clinical practice. Views on hypnosis-like techniques appear to be similar among anesthesiology attending physicians, trainees, and nurse anesthetists. In developing programs to increase the use of therapeutic verbal techniques among anesthesia providers, practical considerations, like time, needed to employ these techniques and training requirements should be explicitly addressed.

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