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Hypnosis for Symptom Control in Cancer Patients at the End-of-Life: A Systematic Review

Guy H. Montgomery, Ph.D.,

Icahn School of Medicine at Mount Sinai

Madalina Sucala, Ph.D.,

Icahn School of Medicine at Mount Sinai

Tessa Baum, and

Icahn School of Medicine at Mount Sinai

Julie B. Schnur, Ph.D.

Icahn School of Medicine at Mount Sinai

Abstract

Hypnosis has been shown to alleviate symptoms and side effects of cancer and its treatment. However, less is known about the use of hypnosis at end-of-life in individuals with cancer. Our goal was to systematically review the literature on the use of hypnosis to manage the most common symptoms of end-of-life cancer patients: fatigue, sleep disturbances, pain, appetite loss, and dyspnea. EMBASE, MEDLINE, COCHRANE, PsychINFO, and SCOPUS databases were searched from inception through November 7, 2016. No studies met the inclusion criteria. It appears that hypnosis has never been rigorously tested as a means to ameliorate the most common symptoms in individuals with cancer at the end-of-life. This finding is troubling, as it strongly implies that a population most in need has been largely neglected. However, a clear future research direction is revealed that may have significant clinical impact.

Keywords

Hypnosis; Cancer; Symptoms; End-of-Life

The American Cancer Society has estimated there will be 1,685,210 new cancer diagnoses in the United States in 2016, and 595,690 cancer deaths (ACS, 2016). Towards the end-of-life, individuals with cancer experience substantial symptom burden (Barbera et al., 2010). Five of the most common symptoms for patients with cancer at the end-of-life are: 1) fatigue; 2) sleep disturbances (insomnia); 3) pain; 4) appetite loss (anorexia); and, 5) dyspnea (Giesinger et al., 2011; Reeve et al., 2014). Below, we briefly describe each symptom, its prevalence, and impact on cancer patients at the end-of-life.

Cancer-related fatigue (CRF) has been defined as the feeling of being tired physically, mentally, and emotionally. It is an ongoing sense of extreme tiredness that does not get better with rest (Berger et al., 2015). CRF is also typically reported as one of the most distressing symptoms (Hong, Blonquist, Halpenny, & Berry, 2016), as it can interfere with daily functioning, as well as end-of-life goals (e.g., saying goodbye to family and friends). As one of the most common symptoms at the end-of-life (Doorenbos, Given, Given, & Verbitsky, 2006), the prevalence of CRF has been reported to range from 57% to 84% (Giesinger et al., 2011; Johnsen, Petersen, Pedersen, & Groenvold, 2009), with burden increasing as the death nears (Giesinger et al., 2011).

Sleep disturbances (insomnia) are typically experienced by cancer patients as difficulty falling asleep, maintaining sleep, or non-restorative sleep (Pinto & de Azambuja, 2011). At the end-of-life, the prevalence of sleep disturbances has been reported to range from 49% to 57% (Giesinger et al., 2011; Reeve et al., 2014). Sleep disturbances often adversely affect quality of life (Giesinger et al., 2011), as they can lead to fatigue, memory and concentration problems, and mood disturbances. Sleep disturbances have been found to have several causes, including: anxiety and depression, older age, medications (including chemotherapy and hormone therapy), and hospitalization (Die Trill, 2013). Many of the causes of sleep disturbance are also common in cancer patients at the end-of-life (Giesinger et al., 2011).

Pain is a common symptom in cancer patients at the end-of-life, with prevalence reported between 30% and 75% (Conill et al., 1997; Toscani et al., 2005). Pain can directly interfere with multiple domains of quality of life, for example, impacting emotional, social, physical, functional well-being at the end-of-life (Giesinger et al., 2011). Furthermore, patients and families can fear the use of opioids for pain management at the end-of-life, as they worry that opioid use could potentially hasten death (Wilson et al., 2015). However, opioids are among the most commonly prescribed medications during hospital admissions in palliative care (Riechelmann, Krzyzanowska, O'Carroll, & Zimmermann, 2007).

Appetite loss (anorexia) is common in patients nearing the end-of-life. Appetite loss occurs in 45% to 61% of patients (Giesinger et al., 2011; Reeve et al., 2014). Medications, taste changes, and discomfort during eating can all contribute to the loss of appetite (Jatoi, Kumar, Sloan, & Nguyen, 2003). Appetite loss can be upsetting to both patients and their families, as not eating can be viewed as a sign of impending death (Jatoi et al., 2003).

Dyspnea, defined as shortness of breath or "air hunger", is one of the most frightening symptoms for cancer patients at the end-of-life. Dyspnea often worsens in the last weeks and days of life (Seow et al., 2011; Tishelman, Petersson, Degner, & Sprangers, 2007). Dyspnea occurs in 44% to 66% of cancer patients at the end-of-life (Giesinger et al., 2011; Reeve et al., 2014). Dyspnea can be caused by malignant disease, although other risk factors include ascites, chronic obstructive pulmonary disease, deconditioning, and pneumonia (Thomas & von Gunten, 2002).

In sum, these five symptoms are all too common and all too taxing for cancer patients at the end-of-life. The NIH states that symptom management in patients at the end-of-life is a key part of care and supports research efforts in finding interventions to relieve symptom burden

and help patients and families better manage their care (NIH, 2016). For over 200 years, hypnosis has been used to alleviate various symptoms and side effects of cancer and its treatment (Montgomery, Schnur, & Kravits, 2013). The vast majority of this work has focused on the acute cancer care setting (e.g., biopsy, surgery, chemotherapy, and radiotherapy) (Lang et al., 2006; Montgomery et al., 2007; Montgomery et al., 2014; Richardson et al., 2007). The most recent systematic review of the use of hypnosis with terminally ill cancer patients was conducted over a decade ago (Rajasekaran, Edmonds, & Higginson, 2005). Rajasekaran and colleagues found few papers on the topic area and no studies on the use of hypnosis for the most common symptoms of cancer patients at the end-of-life. Therefore, the goal of this paper is to review the literature in relation to the use of hypnosis to control the most common symptoms in cancer patients at the end-of-life: fatigue, sleep disturbances, pain, appetite loss, and dyspnea.

Methods

The literature search was focused on identifying studies on the use of hypnosis to treat fatigue, sleep disturbances, pain, appetite loss, or dyspnea in the context of cancer and end-of-life care. Studies included in the review were obtained by a systematic search of EMBASE, MEDLINE, COCHRANE, PsychINFO, and SCOPUS databases from inception through November 7, 2016. Specific search terms and strategies used for each database are presented in Table 1.

All resulting abstracts were then reviewed by two authors to determine if the papers met the inclusion criteria. The inclusion criteria were as follows: 1) the study was published in a peer-reviewed journal; 2) the study was in the English language; 3) the study included a hypnosis intervention; 4) the study included cancer patients; 5) the study included patients at the end-of-life; 6) the study incorporated Randomized Controlled Trial (RCT) methodology; 7) the study assessed at least one of the five symptoms: fatigue, sleep disturbances, pain, appetite loss, or dyspnea; and, 8) the study reported efficacy data. The complete text was retrieved for abstracts that met the inclusion criteria. No discrepancies in coding the studies occurred.

Results

The review of the 100 identified abstracts revealed that none of the studies met our inclusion criteria (see Figure 1). One abstract describing a Randomized Controlled Trial investigating the efficacy of hypnosis for managing symptoms in terminally ill cancer patients was identified. However, upon reviewing the full text of the study, the paper was excluded as it did not incorporate assessments of any of the most common symptoms in cancer patients at the end-of-life (i.e., fatigue, sleep disturbances, pain, appetite loss, and dyspnea). A flow chart describing the reasons for excluding the identified records is presented in Figure 1.

Discussion

We were more than surprised to discover that since search engine inception, no RCTs met our inclusion criteria. In other words, to the best of our knowledge, hypnosis has never been

rigorously tested to ameliorate any of the five most common symptoms in patients with cancer at the end-of-life. From a humanitarian perspective, these results are troubling, as they strongly imply that a population most in need of relief has been largely neglected by the research community. From a scientific perspective, the current state of affairs is puzzling as hypnosis has been shown to be efficacious for these symptoms in other contexts (Montgomery et al., 2013).

The present results are consistent with previous reviews from over a decade ago which also failed to identify any hypnosis RCTs for management of fatigue, sleep disturbances, pain, appetite loss, or dyspnea in terminally ill cancer patients. For example, in a 2005 review of hypnosis for treating symptoms in terminally ill cancer patients, Rajasekaran et al. (Rajasekaran et al., 2005) found only one relevant RCT (Liossi, 2001). This RCT, which demonstrated beneficial effects of hypnosis for reducing distress, did not address fatigue, sleep disturbances, pain, appetite loss, or dyspnea specifically. Thus, despite the call to action on this issue over a decade ago, no research has tackled this important area of clinical need with a rigorous approach. Although it is easy to criticize this research gap, there are many legitimate barriers to overcome before conducting such research. Examples of potential barriers include: 1) not wanting to burden individuals at the end-of-life with a research study when time is precious; 2) concerns that end-of-life patients may be cognitively impaired due to medications, illness, or neurological changes; and, 3) access to patients, as many are increasingly choosing to die at home (Kongsgaard & Werner, 2009). These barriers are of course challenging, but it is up to the hypnosis research community to meet this challenge. Possible ways to overcome these barriers might include: 1) partnering with palliative care and hospice professionals; 2) incorporating technology in order to reach patients in their homes (e.g., videoconferencing, phone and computer apps); 3) limiting study accrual to those end-of-life patients who are cognitively intact and who can consent; and, 4) respecting patients' choices. We can ask end-of-life patients to participate, and respect their decisions whether to do so, or not. By not attempting to recruit end-of-life patients, by not offering them a choice, we are limiting their options for them.

The present review is not without its limitations. First, as in any systematic literature review, the results are a consequence of the search strategies used. It is always possible that papers may be missed. For example, some readers may wonder why work by Spiegel & Bloom (Spiegel & Bloom, 1983) on the use of hypnosis to control pain in women with metastatic breast cancer was not found. Exploring our search terms and those assigned to the paper revealed that the Spiegel & Bloom paper did not include the terms focused on end-of-life (e.g., terminal, palliative, death). This makes sense, as the patients in that study were metastatic breast cancer patients and well enough to attend outpatient group therapy. They were obviously ill, but not all patients were necessarily in the last months or weeks of life. Thus, the paper was not directly relevant to the present review. Second, the decision was made to limit the database searches to RCTs. RCTs are viewed as the gold standard of modern clinical science, and typically, RCT evidence is required before interventions are accepted into standard clinical practice (Higgins & Green, 2011). Case reports can demonstrate new and exciting interventions and inspire larger scale research. Unfortunately, case reports on hypnosis and end-of-life symptoms have not spurred more rigorous scientific research. Third, we restricted the searches to English, which is the language of the majority

of scientific papers (Drubin & Kellogg, 2012). Fourth, we did not include unpublished data (e.g., dissertations). We chose this approach as we were concerned that if a study had not undergone peer review, then we could not be assured of its methodological quality.

Although hypnosis has not been rigorously tested for its effect on the five most common symptoms at the end-of-life in patients with cancer, we speculate that hypnosis has great potential in this context. For example, hypnosis has been shown to: 1) improve fatigue in breast cancer radiotherapy patients (Montgomery et al., 2014), fibromyalgia patients (Haanen et al., 1991; Picard et al., 2013), breast cancer surgery patients (Montgomery et al., 2007), and cancer survivors (Mendoza et al., 2016); 2) improve sleep disturbances in PTSD patients (Abramowitz, Barak, Ben-Avi, & Knobler, 2008), and sleep onset insomnia (Stanton, 1989); and, 3) improve pain across a wide variety of contexts (Montgomery, David, Winkel, Silverstein, & Bovbjerg, 2002; Montgomery, DuHamel, & Redd, 2000). However, at this time, there appears to be an overall lack of empirical evidence supporting the use of hypnosis for appetite loss and dyspnea in any context.

In conclusion, patients with cancer at the end-of-life face clinically significant symptom burden. Despite advantages associated with hypnosis interventions, including the flexibility of the approach (Lynn, Rhue, & Kirsch, 2010), cost-effectiveness (Montgomery et al., 2007), and lack of its own associated side effects or drug interactions, hypnosis has not been systematically studied for symptom management in cancer patients at the end-of-life. Future rigorous studies are needed in order to improve the quality of life at the end-of-life for cancer patients in need.

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Figure 1.
PRISMA Flow Diagram

Table 1

Search Strategy

DataBase	Specific search terms and filters	Retrieved papers
Embase Classic + Embase, 1947 to October Week 4 2016	(hypno* or hypnotherap*).mp. [mp=title, abstract, heading word, drug trade name, original title, device manufacturer, drug manufacturer, device trade name, keyword, floating subheading] AND palliative therapy OR terminal care OR ((palliative or terminal or end-of-life) adj3 care).mp. [mp=title, abstract, heading word, drug trade name, original title, device manufacturer, drug manufacturer, device trade name, keyword, floating subheading] AND neoplasm OR (cancer or tumo?r or neoplas* or oncolog*).mp. [mp=title, abstract, heading word, drug trade name, original title, device manufacturer, drug manufacturer, device trade name, keyword, floating subheading] AND “randomized controlled trial (topic)” OR controlled clinical trial	7
Ovid Medline	(hypno* or hypnotherap*).mp. [mp=title, abstract, heading word, drug trade name, original title, device manufacturer, drug manufacturer, device trade name, keyword, floating subheading] AND palliative therapy OR terminal care OR ((palliative or terminal or end-of-life) adj3 care).mp. [mp=title, abstract, heading word, drug trade name, original title, device manufacturer, drug manufacturer, device trade name, keyword, floating subheading] AND neoplasm OR (cancer or tumo?r or neoplas* or oncolog*).mp. [mp=title, abstract, heading word, drug trade name, original title, device manufacturer, drug manufacturer, device trade name, keyword, floating subheading] AND “randomized controlled trial (topic)” OR controlled clinical trial	2
Cochrane Central Register of Controlled Trials	(hypno* or hypnotherap*).mp. [mp=title, abstract, heading word, drug trade name, original title, device manufacturer, drug manufacturer, device trade name, keyword, floating subheading] AND palliative therapy OR terminal care OR ((palliative or terminal or end-of-life) adj3 care).mp. [mp=title, abstract, heading word, drug trade name, original title, device manufacturer, drug manufacturer, device trade name, keyword, floating subheading] AND neoplasm OR (cancer or tumo?r or neoplas* or oncolog*).mp. [mp=title, abstract, heading word, drug trade name, original title, device manufacturer, drug manufacturer, device trade name, keyword, floating subheading] AND “randomized controlled trial (topic)” OR controlled clinical trial	0
PsychINFO (Ovid)	(hypno* or hypnotherap*).mp. [mp=title, abstract, heading word, drug trade name, original title, device manufacturer, drug manufacturer, device trade name, keyword, floating subheading] AND palliative therapy OR terminal care OR ((palliative or terminal or end-of-life) adj3 care).mp. [mp=title, abstract, heading word, drug trade name, original title, device manufacturer, drug manufacturer, device trade name, keyword, floating subheading] AND neoplasm OR (cancer or tumo?r or neoplas* or oncolog*).mp. [mp=title, abstract, heading word, drug trade name, original title, device manufacturer, drug manufacturer, device trade name, keyword, floating subheading] AND “randomized controlled trial (topic)” OR controlled clinical trial	0
Scopus	(((((TITLE-ABS-KEY ((palliative OR terminal OR end-of-life)) AND TITLE-ABS-KEY (care))) AND (TITLE-ABS-KEY (hypno* OR hypnotherap*))) AND (TITLE-ABS-KEY (cancer OR tumo?r OR neoplas* OR oncolog*))) AND (randomized)	91
TOTAL		100