AFRICAN-AMERICANS' AND LATINOS' PERCEPTIONS OF USING HYPNOSIS TO ALLEVIATE DISTRESS BEFORE A COLONOSCOPY

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ABSTRACT

Although colorectal cancer (CRC) screenings can effectively detect and prevent cancer, a large portion of African-Americans and Latinos do not undergo regular colonoscopy screening. Research suggests that anticipatory distress can significantly hinder minorities' adherence to colonoscopy recommendations. There is significant promise that hypnosis may effectively reduce such distress. The current study examined African-Americans' and Latinos' (n = 213) perceptions of using hypnosis prior to a colonoscopy. Overall, 69.9% of the sample expressed favourable perceptions of using pre-colonoscopy hypnosis, although there was notable variability. The results from this study can guide clinical decision making and inform future research efforts.

Key words: hypnosis, colonoscopy, perceptions, minorities

In the United States, colorectal cancer (CRC) is the second leading cause of cancer death (American Cancer Society, 2008). An extensive body of literature has found that preventive CRC screening increases the probability of detecting CRC at an earlier stage, thereby increasing the likelihood of survival (Levin et al., 2008). Due to the known effectiveness of preventive CRC screening, the US Preventive Services Task Force (USPSTF) recommends that people between the ages of 50 and 75 undergo regular CRC screening (e.g. colonoscopy per 10 years) (American Cancer Society, 2008). Of the recommended CRC screening mechanisms, a colonoscopy is considered the gold standard because it allows for the examination of the entire colon and, if clinically indicated, removes noncancerous, precancerous, and cancerous polyps from the colon and rectum (Rex, 2004). In fact, it has been estimated that colonoscopy screening can prevent 75–90% of all CRC incidents (American Cancer Society, 2008).

Although endoscopic screenings (e.g. colonoscopy) can effectively detect and treat CRC, African-Americans' (36.9%) and Latinos' (28.3%) endoscopy rates are significantly lower than those of whites (45.8%) (American Cancer Society, 2008). Research has aimed to identify and address barriers to receiving a colonoscopy among minority patients. The results of these studies have repeatedly found that, among other barriers, anticipatory distress (e.g. worry about the physical discomfort of the colonoscopy preparation and procedure, fear of finding cancer, worry about feeling embarrassed during the procedure) can significantly hinder minorities' adherence to colonoscopy recommendations (Green &

Kelly, 2004; Denberg et al., 2005; Condon et al., 2008; Green et al., 2008; Bass et al., 2010; Jandorf et al., 2010). There is a clear need to reduce this anticipatory distress in order to increase colonoscopy adherence. Hypnosis has the potential to effectively address this barrier. Hypnosis has been defined as 'an agreement between a person designated as the hypnotist (e.g., health care professional) 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: 80). Hypnosis has been found to effectively reduce anticipatory distress prior to other invasive medical procedures (e.g. breast biopsy, gynaecological surgery, ambulatory surgical procedures) (Goldmann et al., 1988; Montgomery et al., 2002; Lang et al., 2006; Saadat et al., 2006; Schnur et al., 2008) and some initial research supports its use prior to a colonoscopy to reduce distress (Elkins et al., 2006). By reducing African-Americans' and Latinos' levels of anticipatory distress, hypnosis has the potential to be a particularly useful intervention to increase their adherence to colonoscopy recommendations, and in doing so, reduce CRC mortality.

The first step in our effort to increase colonoscopy adherence is to explore African-Americans' and Latinos' overall perceptions of using hypnosis prior to a colonoscopy. Although research reports low overall utilization of hypnosis in minority populations (less than 0.2%) (Graham et al., 2005), African-Americans' and Latinos' specific perceptions about participating in hypnosis prior to a colonoscopy are unknown. The primary aim of the current study was to examine whether African-Americans and Latinos are interested in and willing to use hypnosis prior to a colonoscopy, and whether they believe that it could be helpful in preparing for and completing the procedure. The secondary aim of this study was to explore whether demographic factors (i.e. age, race, gender) influence perceptions of hypnosis among this population. To date, the literature suggests that complementary and alternative medicine (CAM) use varies depending on race, gender, and age (Bausell et al., 2001; Shmueli & Shuval, 2004; Goldstein et al., 2005; Graham et al., 2005; Bishop & Lewith, 2010); however, no research to date has examined demographic differences in perceptions of using hypnosis prior to a colonoscopy.

METHOD

PARTICIPANTS

Participants were a convenience sample (n = 213) of African-Americans and Latinos who received a physician recommendation for a colonoscopy screening (Jandorf et al., 2011). Eligibility criteria included: asymptomatic for CRC, age 50 or older, access to a telephone, English or Spanish speaking, and self-identified as African-American or Latino. Individuals with a personal history of CRC or a chronic gastrointestinal disorder, and/or a family history (first degree relative) of CRC were excluded from the study. The majority of the sample was low-income (84.5% gross annual income < US$24,999). The participants' ages ranged from 50 to 84 (mean = 58.8, SD = 7.2) and the majority of the participants were female (72.8%). Of the sample, 49.3% self-identified as African-American and 50.7% as Latino.

MEASURES

Perceptions of pre-colonoscopy hypnosis

A questionnaire was developed to assess participants' perceptions of pre-colonoscopy hypnosis. Hypnosis was described as a means to relax the body and mind in order to reduce anxiety, worry, fear, and pain. The participants were also told that hypnosis can be used to help people think more positively about difficult or stressful situations, such as a colonoscopy. The scale consisted of four questions on an 11-point Likert scale: (1) How interested would you be in using hypnosis prior to a colonoscopy? (0 = not at all interested, 10 = extremely interested); (2) How confident are you that hypnosis could help you get ready for a colonoscopy? (0 = not at all confident, 10 = extremely confident); (3) How helpful in completing a colonoscopy appointment would hypnosis be? (0 = not at all helpful, 10 = extremely helpful); (4) Would you be willing to try hypnosis? (0 = not at all willing; 10 = extremely willing). The scale was summed to produce a total score of perceptions of pre-colonoscopy hypnosis ranging from 0 to 40.

Demographics

Participants completed a demographics questionnaire which assessed income, age, race, and gender.

PROCEDURE

Eligible patients were recruited in a primary care clinic at a large metropolitan hospital and were asked a series of questions regarding their demographics and their perceptions of using hypnosis prior to a colonoscopy. The questionnaires were administered in the participants' preferred language (Spanish or English).

RESULTS

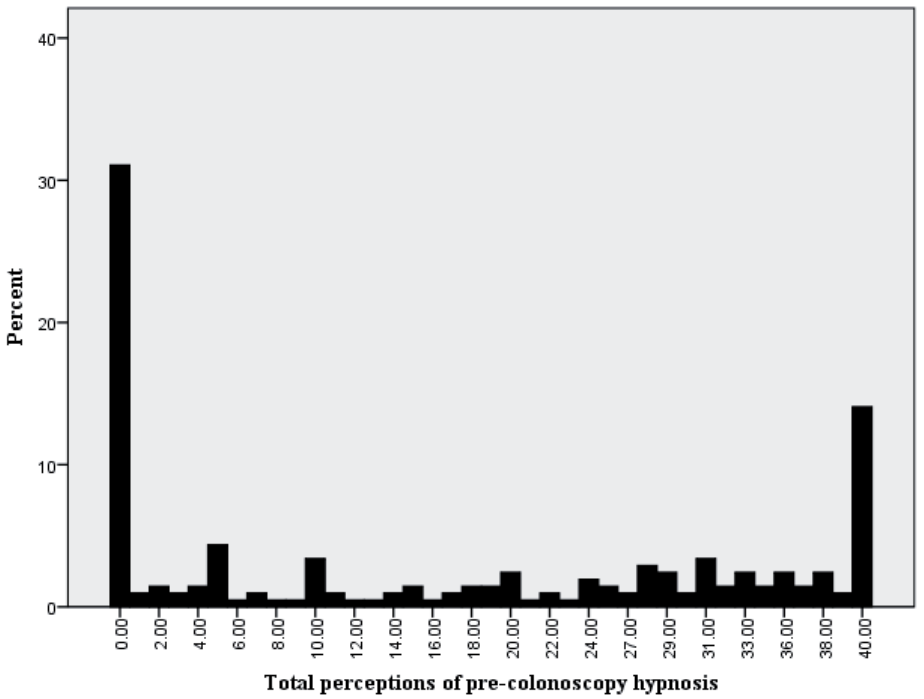
AFRICAN-AMERICANS' AND LATINOS' PERCEPTIONS OF PRE-COLONOSCOPY HYPNOSIS

The Cronbach's alpha for the four hypnosis questions was 0.95, suggesting strong internal consistency. Given the high internal consistency among the items, the four hypnosis questions were totalled in order to assess participants' overall perceptions of pre-colonoscopy hypnosis. Overall, 69.9% of the sample expressed some favourable perceptions of using hypnosis prior to having a colonoscopy (total score > 0). An analysis of the continuous data revealed a bimodal distribution such that 14.1% of the participants expressed entirely favourable perceptions (total score = 40) and 31.1% of participants reported entirely unfavourable perceptions (total score = 0). The remaining group of participants (54.8%) reported scores between 1 and 39. See Figure 1.

PREDICTORS OF PERCEPTIONS OF PRE-COLONOSCOPY HYPNOSIS

A multiple regression was run in order to assess whether together, age, gender, and race predict perceptions of pre-colonoscopy hypnosis. Given the bimodal distribution, the data violated the normality assumption of a multiple regression. Therefore, the data was trichotomized into three groups: entirely unfavourable perceptions (total score = 0),

Figure 1: African-Americans' and Latinos' perceptions of pre-colonoscopy hypnosis



ambivalent perceptions (1–39), and entirely favourable perceptions (total score = 40). The trichotomized data was normally distributed (skewness = 0.19, kurtosis = -0.68). Although the regression was statistically significant, F (3, 202) = 3.66, p = 0.01, the model only accounted for 5.2% of the variance (adjusted R^2 = 0.05), which suggests that individual factors (i.e. age, race, gender) are not clinically meaningful predictors of pre-colonoscopy hypnosis perceptions.

DISCUSSION

The current study aimed to examine African-Americans' and Latinos' overall perceptions of using hypnosis prior to a colonoscopy. The results revealed that African-Americans and Latinos have varying perceptions of using hypnosis prior to a colonoscopy. Participants' responses fell into one of three categories: entirely favourable perceptions, ambivalent perceptions, and entirely unfavourable perceptions. Patients' pre-colonoscopy hypnosis perceptions can be used to guide clinical decision making. For example, participants who report entirely favourable perceptions of pre-colonoscopy hypnosis will likely be open and willing to participate in hypnosis before a colonoscopy in order to reduce anticipatory distress. Therefore, it is recommended that this group of patients be offered a hypnosis intervention before their colonoscopy appointment, as has been done in the context of other cancer procedures (Montgomery et al., 2007).

The majority of the participants reported ambivalent perceptions regarding pre-colonoscopy hypnosis. For these patients, before implementing a hypnosis intervention, health

care providers might initiate discussions regarding the potential benefits of using hypnosis prior to a colonoscopy. Psycho-education (debunking of misconceptions about hypnosis, providing a definition of hypnosis, answering questions, and addressing concerns) and/or brief exposure to hypnosis may significantly improve African-Americans' and Latinos' perceptions of participating in hypnosis before a colonoscopy. In fact, it has been recommended that a psycho-educational component be integrated into most hypnosis interventions in order to debunk common misconceptions (Rhue et al., 1995). Additionally, previous research suggests that engaging in a brief hypnosis session can significantly reduce common misconceptions about hypnosis (e.g. hypnosis causes a person to enter an altered state of consciousness) (Green, 2003). For patients who seem particularly reluctant to participate in hypnosis, health care practitioners may also consider using motivational interviewing techniques (e.g. creating a decisional balance, encouraging patient autonomy, discussing values) to minimize resistance and improve overall perceptions of using hypnosis prior to a colonoscopy (Lundahl et al., 2010).

Although the majority of patients expressed some favourable perceptions of using hypnosis before a colonoscopy, approximately one third of the participants reported entirely unfavourable perceptions. Because of the brevity of the assessment questionnaire, it is unclear why this subset of the participants holds negative perceptions of pre-colonoscopy hypnosis. It is possible that factors such as medical mistrust (Corbie-Smith et al., 2002; Rajakumar et al., 2009) or misconceptions about hypnosis (Green, 2003) may be contributing to participants' unfavourable perceptions. Future qualitative studies are needed to better understand the variables which influence minorities' perceptions of using pre-colonoscopy hypnosis. The results from such research could help clinicians develop tailored interventions to improve such perceptions.

The second aim of the study was to examine whether demographic factors (i.e. age, gender, race) predict African-Americans' and Latinos' perceptions of using hypnosis prior to a colonoscopy. Results indicated that together age, gender, and race only accounted for 5% of the variability, suggesting no clinically meaningful relationships between these individual factors and perceptions of pre-colonoscopy hypnosis. Therefore, it is recommended that all minority patients be screened in order to determine their perceptions of pre-colonoscopy hypnosis.

The current study was the first to examine African-Americans' and Latinos' perceptions of using hypnosis before a colonoscopy. While the study provides valuable information regarding this specific question, a limitation lies in the limited generalizability of the data to other populations and settings. Future research needs to assess whether other populations (e.g. Caucasians, Asian-Americans) are open to pre-colonoscopy hypnosis and whether minorities are willing to utilize hypnosis in other contexts (e.g. before other invasive medical procedures). As previously mentioned, another limitation of the study is the lack of qualitative data regarding the participants' reasoning for their responses. Although the questionnaire used in this study does not provide descriptive information, it proved to be a short, time-efficient, and reliable (Cronbach's alpha = 0.95) method to screen patients' perceptions of using hypnosis.

Pre-colonoscopy hypnosis holds significant promise to reduce anticipatory distress and thus improve African-Americans' and Latinos' adherence to colonoscopy recommendations, potentially leading to a reduction in CRC mortality. However, this population holds varying perceptions about using hypnosis in this way. Therefore, the researchers recommend that

clinicians screen for African-Americans' and Latinos' perceptions of pre-colonoscopy hypnosis in order to inform clinical decisions.

REFERENCES

American Cancer Society (2008). *Colorectal Cancer Facts and Figures 2008–2010*. Atlanta, GA: American Cancer Society, Inc. Available from http://www.cancer.org/acs/groups/content/@nho/documents/document/f861708finalforwebpdf.pdf (accessed 4 July 2011).

Bass SB, Gordon TF, Ruzek SB, Wolak C, Ward S, Paranjape A, Lin K, Meyer B, Ruggieri DG (2010). Perceptions of colorectal cancer screening in urban African American clinic patients: Differences by gender and screening status. *Journal of Cancer Education* 26(1): 121–128. DOI: 10.1007/s13187-010-0123-9

Bausell RB, Lee WL, Berman BM (2001). Demographic and health related correlates of visits to complementary and alternative medical providers. *Medical Care* 39: 190–196.

Bishop FL, Lewith GT (2010). Who uses CAM? A narrative review of demographic characteristics and health factors associated with CAM use. *Evidence Based Complementary and Alternative Medicine* 7: 11–28. DOI: 10.1093/ecam/nen023

Condon A, Graff L, Elliot L, Ilnyckyj A (2008). Acceptance of colonoscopy requires more than test tolerance. *Canadian Journal of Gastroenterology* 22: 41–47.

Corbie-Smith G, Thomas SB, St George DM (2002). Distrust, race, and research. *Archives of Internal Medicine* 162: 2458–2463.

Denberg TD, Melhado TV, Coombes JM, Beaty BL, Berman K, Byers TE, Marcus AC, Steiner JF, Ahnen DJ (2005). Predictors of nonadherence to screening colonoscopy. *Journal of General Internal Medicine* 20: 989–995. DOI: 10.1111/j.1525-1497.2005.00164.x

Elkins G, White J, Patel P, Marcus J, Perfect MM, Montgomery GH (2006). Hypnosis to manage anxiety and pain associated with colonoscopy for colorectal cancer screening: Case studies and possible benefits. *International Journal of Clinical and Experimental Hypnosis* 54: 416–431. DOI: 10.1080/00207140600856780

Goldmann L, Ogg TW, Levey AB (1988). Hypnosis and daycase anaesthesia. A study to reduce pre-operative anxiety and intra-operative anaesthetic requirements. *Anaesthesia* 43: 466–469.

Goldstein MS, Brown EB, Ballard-Barbash R, Morgenstern H, Bastani R, Lee J, Gatto N, Ambs A (2005). The use of complementary and alternative medicine among California adults with and without cancer. *Evidence Based Complementary and Alternative Medicine* 2: 557–565. DOI:10.1093/ecam/neh138

Graham RE, Ahn AC, Davis RB, O'Connor BB, Eisenberg DM, Phillips RS (2005). 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* 97: 535–545.

Green AR, Peters-Lewis A, Percac-Lima S, Betancourt JR, Richter JM, Janairo MPR, Gamba GB, Atlas SJ (2008). Barriers to screening colonoscopy for low-income Latino and White patients in an urban community health center. *Journal of General Internal Medicine* 23: 834–840. DOI: 10.1007/s11606-008-0572-6

Green J (2003). Beliefs about hypnosis: Popular beliefs, misconceptions, and the importance of experience. *International Journal of Clinical and Experimental Hypnosis* 51: 369–381. DOI: 10.1076/iceh.51.4.369.16408

Green PM, Kelly BA (2004). Colorectal cancer knowledge, perceptions, and behaviors in African Americans. *Cancer Nursing* 27: 206–215.

Jandorf L, Ellison J, Villagra C, Winkel G, Varela A, Quintero-Canetti Z, Castillo A, Thélémaque L, King S, Duhamel K (2010). Understanding the barriers and facilitators of colorectal cancer screening among low income immigrant Hispanics. *Journal of Immigrant and Minority Health* 12: 462–469. DOI: 10.1007/s10903-009-9274-3

Jandorf L, Stossel L, Itzkowitz S, Cooperman J, Thompson H, Villagra C et al. (2011). Implementation of culturally targeted patient navigation system for screening colonoscopy. *Preventive Medicine*. Manuscript submitted for publication.

Lang EV, Berbaum KS, Faintuch S, Hatsiopoulou O, Halsey N, Li X, Berbaum ML, Laser E, Baum J (2006). Adjunctive self-hypnotic relaxation for outpatient medical procedures: A prospective randomized trial with women undergoing large core breast biopsy. *Pain* 126: 155–164. DOI:10.1016/j.pain.2006.06.035

Levin B, Lieberman DA, McFarland B, Andrews KS, Brooks D, Bond J, Dash C, Giardiello FM, Glick S, Johnson D, Johnson CD, Levin TR, Pickhardt PJ, Rex DK, Smith RA, Thorson A, Winawer SJ (2008). Screening and surveillance for the early detection of colorectal cancer and adenomatous polyps, 2008: A joint guideline from the American Cancer Society, the US Multi-Society Task Force on Colorectal Cancer, and the American College of Radiology. *Gastroenterology* 134: 1570–1595. DOI: 10.3322/CA.2007.0018

Lundahl BW, Kunz C, Brownell C, Tollefson D, Burke BL (2010). A meta-analysis of motivational interviewing: Twenty-five years of empirical studies. *Research on Social Work Practice* 20(2): 137–160. DOI: 10.1177/1049731509347850

Montgomery GH, Bovbjerg DH, Schnur JB, David D, Goldfarb A, Weltz C, Schechter C, Graff-Zivin J, Tatrow K, Price DP, Silverstein J (2007). A randomized clinical trial of a brief hypnosis intervention to control side effects in breast cancer surgery patients. *Journal of the National Cancer Institute* 99: 1304–1312. DOI: 10.1093/jnci/djm10

Montgomery GH, David D, Winkel G, Silverstein JH, Bovbjerg DH (2002). The effectiveness of adjunctive hypnosis with surgical patients: A meta-analysis. *Anesthesia and Analgesia* 94: 1639–1645.

Montgomery GH, Hallquist MN, Schnur JB, David D, Silverstein JH, Bovbjerg DH (2010). 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* 78: 80–88. DOI: 10.1037/a0017392

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

Rajakumar K, Thomas SB, Musa D, Almario D, Garza MA (2009). Racial differences in parents' distrust of medicine and research. *Archives of Pediatrics & Adolescent Medicine* 163: 108–114.

Rex DK (2004). American College of Gastroenterology action plan for colorectal cancer prevention. *American Journal of Gastroenterology* 99: 574–577. DOI: 10.1111/j.1572-0241.2004.04108.x

Rhue JW, Lynn SJ, Kirsch I (1995). *Handbook of Clinical Hypnosis*. Washington, DC: American Psychological Association.

Saadat H, Drummond-Lewis J, Maranets I, Kaplan D, Saadat A, Wang SM, Kain ZN (2006). Hypnosis reduces preoperative anxiety in adult patients. *Anesthesia and Analgesia* 102: 1394–1396. DOI: 10.1213/01.ane.0000204355.36015.54

Schnur JB, Bovbjerg DH, David D, Tatrow K, Goldfarb AB, Silverstein JH, Weltz CR, Montgomery GH (2008). Hypnosis decreases presurgical distress in excisional breast biopsy patients. *Anesthesia and Analgesia* 106: 440–444. DOI: 10.1213/ane.0b013e31815edb13

Shmueli A, Shuval J (2004). Use of complementary and alternative medicine in Israel: 2000 vs. 1993. *Israeli Medical Association Journal* 6: 3–8.

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