Original article

Patients' perspectives on integrating acupuncture into the radiation oncology setting

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Abstract

Introduction: Acupuncture has potential as a supportive care service for cancer symptom management. However, little is known about patients' willingness to use acupuncture in the context of conventional cancer care.

Methodology: We conducted a cross-sectional survey study among patients with cancer during their last week of fractionated/external beam radiotherapy (RT). The main outcome variable was self-reported likelihood of using acupuncture during RT. Knowledge about acupuncture and pain severity was measured along with socio-demographic and clinical variables. Multivariate logistic regression was performed to identify factors associated with willingness to use acupuncture.

Results: Among the 305 participants, 79 (26.4%) were likely to use acupuncture during RT if such services were offered at a reasonable price, 143 (46.9%) had no knowledge of acupuncture, and 206 (67.6%) reported having pain. In multivariate analyses, non-Whites (adjusted odds ratio [AOR] 1.94, 95% confidence interval [CI] 1.06–3.56), and those with pain (AOR 2.52, CI 1.25–5.10) were more interested in using acupuncture. In addition, patients with preexisting knowledge about acupuncture were also more likely to use acupuncture than those without this knowledge (AOR 2.23, CI 1.28–3.88).

Conclusions: Patients of non-White race, those with pain or those with prior knowledge about acupuncture were more willing to utilize acupuncture during RT. Since half of the patients had no knowledge about acupuncture, interventions to improve patients' knowledge are needed to facilitate the successful integration of acupuncture into cancer care.

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Keywords: Acupuncture; Radiotherapy; Pain; Health disparity; Knowledge; CAM

Introduction

Annually, approximately 3.2 million people in Europe and 1.6 million people in the United States are diagnosed with cancer, and depending on their diagnoses and prognoses, roughly 50% will receive radiotherapy (RT) as part of their treatment [1–3]. While RT can significantly improve cancer-related outcomes, the benefits can be accompanied by substantial toxicities including xerostomia, nausea, pain, and fatigue, all of which negatively impact patient quality of life [4–10]. To address these symptoms, many RT patients turn to Complementary and Alternative Medicine (CAM). A recent cross-sectional study demonstrated that 68% of patients receiving RT used CAM, with a majority of patients citing perceived benefits such as improved energy and overall health [11].

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Acupuncture, an ancient CAM modality, involves the use of thin sterile needles placed at specific points on the body. Traditionally, acupuncture was believed to promote energy flow and enhance wellbeing; basic science research suggests that acupuncture may affect cognition and emotional and pain processing [12]. Although acupuncture's mechanism of action is still not fully understood, emerging evidence suggests that it may be effective in reducing several cancer-related symptoms commonly seen in patients undergoing RT (i.e. fatigue [13], pain [14], nausea [15], and xerostomia [16]).

Despite the potential benefits of acupuncture, it is estimated that fewer than 5–10% of cancer patients currently use acupuncture for symptom management [17,18]. Since radiation oncology patients can experience a high symptom burden, with up to 28% of patients suffering from nausea or vomiting depending on the body site of treatment, and a high percentage of patients irradiated for head or neck cancer experiencing some severity of xerostomia, the role of acupuncture in symptom management in the RT setting is particularly relevant [5,7,19]. An understanding of patients' willingness to use acupuncture in the RT setting is important for several reasons. First, this understanding can enable cancer centers and clinics to plan integrative acupuncture services with appropriate staffing to meet patients' needs. Second, as preliminary evidence emerges in support of acupuncture in an RT setting, the need for larger-scale randomized control trials also grows. Understanding whether patients are receptive to acupuncture may enable researchers to plan for effective recruitment strategies. Thus, the specific aims of this study are to: (1) quantify the proportion of patients who would be likely to use acupuncture in the RT setting if such a service were available; and (2) identify the factors (i.e. socio-demographic, clinical, and previous knowledge) related to patient-reported willingness to use acupuncture in the RT setting.

Materials and methods

Study population

We administered a cross-sectional survey study in the Radiation Oncology Department of the Hospital of the University of Pennsylvania (Philadelphia, PA). Potential participants included patients aged 18 or older who were receiving RT in an outpatient setting for a primary diagnosis of cancer, who were more than 14 days post-operative, and who had a Karnofsky functional score of 60 or greater. Patients were excluded from the study if they were receiving palliative RT, had been previously diagnosed with a brain tumor, were experiencing abnormal neurological function, or were unable to comprehend the requirements of the study and provide informed consent.

Ethical approval

Both the University of Pennsylvania Institutional Review Board and the Abramson Comprehensive Cancer Center Scientific Review and Monitoring Committee approved this study. After obtaining permission from the treating radiation oncologists, research assistants screened medical records and approached eligible patients during their last week of radiation treatment visits. Once patients consented, they were given a self-administered survey.

Measurements

We assessed the primary outcome, a patient's likelihood of using acupuncture, with the following question: "How likely is it that you would have utilized acupuncture if it was available to you at a reasonable price?" and measured responses on a five-point Likert scale ranging from very unlikely to very likely. For analysis, responses were dichotomized with likely and very likely considered an affirmation of potential usage.

Patients self reported socio-demographic factors: age, sex, race/ethnicity, marital status and education. We dichotomized race into White vs. non-White to ensure adequate numbers for analyses. Clinical factors including cancer type, stage, and treatment course were collected by chart abstraction. Pain was measured using the validated Brief Pain Inventory (BPI) [20]; responses to the worst pain item were categorized as no pain (0), mild pain (1–4), and moderate/severe pain (5–10). Since the literature suggests that there may be a relationship between perceived knowledge and CAM use [21], we evaluated patients' knowledge about acupuncture using the following item: "How knowledgeable are you about acupuncture?" and responses were measured on a three-point Likert scale of, "Not Knowledgeable, Somewhat Knowledgeable, or Knowledgeable." For analysis, responses to this item were dichotomized into patients with no knowledge and patients with knowledge about acupuncture.

Analyses

All analyses were performed using STATA 12.0 (StataCorp, College Station, TX). Demographic and clinical variables as well as study outcomes were summarized and reported using standard descriptive statistics. Chi-squared analyses were performed to evaluate the relationships between patient characteristics and the dichotomous outcome of likelihood to use acupuncture. Demographics and clinical variables associated with acupuncture use at an alpha less than 0.1 were incorporated into the multivariate logistic regression models. Two multivariate models were generated because gender and cancer type were mutually exclusive in specific categories of our sample population (e.g. prostate cancer only affected male participants). All analyses were two-sided, and an alpha less than 0.05 was considered statistically significant.

Results

Between July 2009 and July 2010, 380 patients were approached for enrollment and 324 (85.3%) agreed to participate. Among the 56 (14.7%) who declined, the main reasons were: 47 (12.4%) did not want to participate in research and 9 (2.4%) reported feeling too sick on the day of the survey. Nine subjects withdrew consent and 10 did not return a completed