SAR TURNING POINTS

Moving the Needle: Promoting the Research, Dissemination, and Implementation of Oncology Acupuncture

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Editor's Note: This column continues the series from the Society for Acupuncture Research (SAR). The column has a hybrid purpose of informing and activating. The authors, SAR Copresident Jun J. Mao, MD, MSCE, and his colleague Kevin T. Liou, MD, both work at the Integrative Medicine Service at Memorial Sloan Kettering Cancer Center (MSKCC) that just celebrated two decades of leadership in the integrative oncology space. (Mao is also a past president of the Society for Integrative Oncology.) Mao and Liou first provide a brief review of the advances in research and uptake of acupuncture in oncology programs while identifying some present challenges related to dissemination and implementation—themes that were central to the robust SAR conference. The authors then invite readers to participate in a SAR-backed symposium April 24–25, 2020 at MSKCC that is meant to address some of the core issues facing clinicians, scientists, and policy leaders active in the field today. This column and the event are linked to SAR's commitment, through a grant from the quasi-public Patient-Centered Outcomes Research Institute (PCORI), to develop and advance an action plan for dissemination and implementation to reflect the advancing oncology acupuncture science. —John Weeks, Editor-in-Chief, JACM

PATIENTS AFFECTED BY cancer often experience multiple distressing symptoms over the course of their disease and treatment process. Inadequate symptom management not only impairs functional status and quality of life but also interferes with the ability to initiate and adhere to cancer treatments, contributing to worse cancer-related outcomes and overall survival.¹ In the past several years, developing and evaluating interventions to address cancer symptom burden have emerged as an important priority in oncology.

Originating from Traditional Chinese Medicine, acupuncture is an integrative modality that uses the insertion, manipulation, and stimulation of needles to treat specific symptoms or medical conditions. In both animal and human studies, acupuncture has been shown to modulate key biological pathways implicated in the pathogenesis of common cancer-related symptoms.² The National Cancer Institute

hosted a landmark symposium in 2016 to review the evidence base of oncology acupuncture, including its role in the management of cancer-related pain, fatigue, hot flashes, nausea/vomiting, and xerostomia.² Since then, additional studies have contributed to the oncology acupuncture literature, particularly in the area of cancer pain management. In a large multicenter randomized clinical trial of 226 early stage breast cancer survivors with aromatase inhibitor-associated arthralgias, acupuncture produced significantly greater pain relief than sham acupuncture and usual care.³ A recently published meta-analysis demonstrated a moderate level of evidence of acupuncture for cancer-related pain.⁴ Currently, the supportive care guidelines from the National Comprehensive Cancer Network recommend acupuncture for several clinical indications, including pain, cancer-related fatigue, hot flashes, chemotherapy-induced nausea, palliative care, and cancer survivorship.⁵

Challenges to Researching Oncology Acupuncture

Despite significant advancements in the past two decades, oncology acupuncture is still a relatively new field that must address several important evidence gaps to further its progress. Mechanistic studies are needed to deepen scientific understanding of the physiologic effects of acupuncture with regard to specific cancer-related symptoms. Although small acupuncture trials have demonstrated promising signals for several challenging symptoms (e.g., chemotherapy-induced peripheral neuropathy, insomnia, and cancer-related cognitive impairment), these preliminary findings should be confirmed in large adequately powered trials with long-term follow-up.² Further research is also needed on the type of needle stimulation and/or dosing indicated for specific symptoms and how to adapt the acupuncture intervention based on individual responses.

The complex multidimensional nature of acupuncture presents unique opportunities for personalized therapy, but also creates significant challenges for high-quality research. To address the evidence gaps already outlined, a thoughtful approach that upholds scientific rigor while preserving the “art” of acupuncture must be adopted. The Medical Research Council has published a useful framework for the development and evaluation of complex interventions, and future acupuncture research should consider this framework to design and conduct rigorous trials that produce usable results.⁶ The use of innovative study designs, such as the sequential multiple assignment randomized trial, will facilitate investigation into optimal strategies for adapting the treatment dosing and specific components of the acupuncture intervention (e.g., needling and stimulation) to maximize therapeutic responses.⁷ Novel tools from neuroscience, genomics, and systems biology will also provide opportunities for translational research on biomarkers that predict individual responses to acupuncture.⁸ Machine learning approaches will open new possibilities into exploring acupuncture from a “whole body” perspective, with a focus on addressing symptom clusters rather than isolated complaints.⁹ Harnessing these latest technological and methodological advancements has the potential to shift the field of oncology acupuncture away from a one-size-fits-all approach toward a “precision” model that personalizes therapy for the individual patient.

Challenges to Disseminating and Implementing Oncology Acupuncture

Despite its growing evidence base and increasing availability at cancer centers in the United States and around the world,^{10,11} acupuncture has not been fully integrated into comprehensive cancer care. As the oncology acupuncture literature continues to grow, there exists a critical need to translate this research into real-world practice. Barriers to integration are well documented and include a diverse range of research-, patient-, provider-, and system-related factors.² As research in oncology acupuncture is conducted, efforts must be dedicated to addressing these barriers and promoting the dissemination and implementation of research findings so that the latest advancements translate into tangible benefits for patients.

More studies are needed to investigate which dissemination/implementation strategies are most effective at increasing

awareness among patients and providers about the evidence base of acupuncture and promoting its safe appropriate use in the cancer population. There is also a growing need for well-designed educational programs to equip acupuncturists with the essential competencies for practicing in the oncology setting. These training initiatives should be accompanied by cancer care coordination efforts that leverage the latest advancements in team science to seamlessly integrate acupuncturists into the cancer care team.¹²

Given that treatment costs remain a significant barrier to acupuncture access, the dissemination and implementation of oncology acupuncture must also address the issue of insurance coverage. Nearly one in two cancer patients would be willing to use acupuncture if it were covered by insurance.¹³ SAR recently published evidence-based recommendations to advocate for Medicare/Medicaid coverage of acupuncture for chronic low-back pain.¹⁴ As evidence accumulates for other clinical indications, similar efforts should be made to promote broader insurance coverage. This will help to increase access to acupuncture among diverse medically underserved patients who often experience greater symptom burden and unmet needs.

Advancing the Field of Oncology Acupuncture

It will take a collaborative effort to address the key challenges facing the field of oncology acupuncture. To reach a wider audience, new channels of communication must be continuously explored and forums created for multidisciplinary engagement.¹⁵ Building on the tremendous momentum generated by SAR's 2019 International Research Conference, the Integrative Medicine Service at the MSKCC will host an interdisciplinary 2-day symposium in partnership with SAR on April 24–25, 2020. Many SAR board members and leaders will be featured as presenters and workshop facilitators. The overarching goal of this joint symposium is to lay the groundwork to begin tackling some of the challenges already described. This will be accomplished through the following objectives:

1. Describe the mechanisms of acupuncture involving central modulation and peripheral stimulation.
2. Evaluate the current evidence of acupuncture for cancer symptom management.
3. Determine strategies for engaging health care providers and health care systems to disseminate and implement acupuncture research findings in cancer care.

On the first day of the symposium, the oncology acupuncture literature will be reviewed from a translational perspective, connecting basic mechanistic research with the clinical evidence for cancer symptom management. To ground this research in real-world practice, international perspectives on the experiences and challenges of delivering acupuncture services in the oncology setting will also be shared. The second day will feature a multidisciplinary discussion on how to optimally integrate acupuncture into comprehensive cancer care. Interactive breakout workshops focused on key areas of interest will be hosted, including the design and conduct of high-quality acupuncture clinical trials in oncology, clinical program development for oncology acupuncture, educational curriculum for oncology acupuncturists, and acupressure for oncology nurses and providers.

The symposium will conclude with a collaborative session to generate a joint action plan that advances the research, dissemination, and implementation of oncology acupuncture.

All health care providers (e.g., physicians, advanced practice providers, nurses, psychologists, social workers, and acupuncturists) who diagnose, manage, and treat side effects of cancer treatment are invited, as well as those who develop and oversee cancer care programs (e.g., administrators and managers), to join us for this pivotal symposium. In this new decade, let us work together to move the needle and advance the promising field of oncology acupuncture.

Author Disclosure Statement

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