

Implementing Integrative Oncology: Hopes and Challenges

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Many medical providers who work in oncology struggle with discussing the use of complementary, alternative, and integrative medicine with their patients. The efficacy of many of these therapies is unknown. Such therapies may have safety concerns, their uses are not included in many oncology care guidelines, patients sometimes want to use them in lieu of standard oncology care, and few are covered by insurers. Despite these limitations, many patients either want to use these therapies or already are actively using them. On the basis of a national US survey, eight of 10 cancer survivors used complementary, alternative, and integrative medicine in 2012, and cancer survivors spent more than \$6.8 billion annually in out-of-pocket costs, which accounts for more than 11% of the national total expenditure on complementary, alternative, and integrative medicine.¹ This high use makes it imperative for oncology care providers to help patients to make informed decisions on complementary, alternative, and integrative medicine use.

In the article that accompanies this commentary, Latte-Naor and Mao² cohesively explain the role of integrative oncology in contemporary oncology care on the basis of their experience in a large academic cancer center. The authors nicely outline the core components of integrative oncology therapeutic categories, which include lifestyle modifications, mind-body practices, acupuncture, and natural products. They also outline the components of an evidence-based practice, which includes the use of research evidence; clinical experience; and patient values, preferences, and rights.

The article by Latte-Naor and Mao is timely in that two controversial articles on complementary, alternative, and integrative medicine use by patients with cancer were recently published that garnered considerable media attention.^{3,4} Johnson et al³ reported that patients with cancer who received complementary medicine were more likely to refuse additional conventional cancer treatment, which led to a higher risk of death. Their study is flawed by substantial methodological issues. The authors relied on data that significantly underestimate the use of complementary, alternative, and integrative medicine and likely biased the results. In addition, they used the terms alternative medicine and complementary medicine interchangeably, which leads to a misinterpretation of their findings. Alternative medicine refers to the use of therapies in lieu of

conventional treatments, and complementary medicine refers to the use of therapies in conjunction with conventional treatments. These limitations highlight the complexity of studying, analyzing, and interpreting complementary, alternative, and integrative medicine use in oncology care. Well-designed studies are needed to understand the effect of complementary, alternative, and integrative medicine on cancer outcomes.

In the second article, ASCO reported that 40% of the US population believes that cancer can be cured by alternative treatments.⁴ These findings suggest that the public misperception of the efficacy of complementary, alternative, and integrative medicine warrants greater resources focused on educating patients and providers about evidence-based complementary, alternative, and integrative medicine use. As an effort to provide oncologists with evidence-based guidance on the use of integrative therapies during and after breast cancer treatment, ASCO endorsed the Society for Integrative Oncology clinical practice guidelines in early 2018.^{5,6} These types of guidelines can lay the groundwork for building integrative oncology clinical practice.

Both academic and community oncology centers are opening integrative oncology programs. We recently launched a new integrative medicine program at the Seattle Cancer Care Alliance, which is a collaboration among the Fred Hutchinson Cancer Research Center, the University of Washington, and Seattle Children's Hospital. The program is embedded within the division of supportive care, which facilitates clinical collaborations across supportive care disciplines, including pain management, palliative care, psychiatry/psychology, nutrition, physical therapy, social work, and spiritual health.

Latte-Naor and Mao raise important points about implementing integrative oncology programs. Major goals of integrative oncology are to encourage patient-centered communications throughout every stage of cancer treatment and to redirect complementary, alternative, and integrative medicine use as needed so that patients receive effective therapies. Simultaneously, integrative oncology is a new discipline, and the creation of new programs within cancer centers has practical and resource challenges.

Additional key concepts related to implementing integrative oncology programs need to be considered.

ASSOCIATED CONTENT

See accompanying article on page 7

Author affiliations and support information (if applicable) appear at the end of this article.

Accepted on December 13, 2018;
DOI <https://doi.org/10.1200/JOP.18.00755>

First, multidisciplinary clinical coordination of care is needed among oncology providers, pharmacists, and integrative oncology providers to ensure that each patient's circumstances are considered fully. Some therapies may pose greater risks (eg, dietary supplements) than others with minimal risks (eg, acupuncture, guided imagery). Integrative oncology practitioners need to counsel patients on the safety of specific therapies in collaboration with the oncology team.

Second, distinguishing between treating symptoms of cancer and adverse effects of cancer treatments and treating the disease itself is important. We have a growing body of evidence that shows that integrative oncology plays a role in the former but not the latter. Some provocative mechanisms are under investigation in in vitro, animal model, and early-phase clinical trials. To our knowledge, no well-designed phase III trials have shown benefit of complementary, alternative, and integrative medicine therapies at decreasing cancer recurrence or improving survival. It is important that patients and providers are clear about the role of integrative oncology therapies.

Third, as an emerging field, integrative oncology programs need to incorporate research from the start. Integrative oncology clinical programs provide a terrific opportunity to collect observational data on symptom control, safety, and clinical outcomes while also serving as a place to test novel strategies. For example, these programs can serve as

venues to conduct pragmatic trials that compare conventional and complementary, alternative, and integrative medicine symptom management approaches.

Fourth, integrative oncology programs need to develop education programs for patients, families, caregivers, integrative medicine practitioners, and conventional oncology providers. Each of these groups makes decisions on how to use resources and choose among therapies. Education programs can set expectations on the therapeutic effects of specific therapies while also guiding the appropriate timing and setting for delivering care.

Finally, the implementation of integrative oncology programs depends on many legal and financial factors. State laws govern the credentialing and scope of practice of many integrative oncology practitioners and differ across states.⁵ Likewise, insurance reimbursement policies for integrative oncology practitioners vary significantly by state and insurer.

The onus is now on cancer centers to determine how best to deliver high-quality integrative oncology care. We have clear evidence that shows the benefit and risks of specific integrative oncology therapies. Given the high prevalence of use as well as of misinformation available to patients, a strong need exists to guide the use of appropriate integrative oncology care to achieve optimal outcomes for our patients.

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AUTHORS' DISCLOSURES OF POTENTIAL CONFLICTS OF INTEREST AND DATA AVAILABILITY STATEMENT

Disclosures provided by the authors and data availability statement (if applicable) are available with this article at DOI <https://doi.org/10.1200/JOP.18.00755>.

REFERENCES

1. John GM, Hershman DL, Falci L, et al: Complementary and alternative medicine use among US cancer survivors. *J Cancer Surviv* 10:850-864, 2016
2. Latte-Naor S, Mao JJ: Putting integrative oncology into practice: Concepts and approaches. *J Oncol Pract* 15:7-14, 2019
3. Johnson SB, Park HS, Gross CP, et al: Complementary medicine, refusal of conventional cancer therapy, and survival among patients with curable cancers. *JAMA Oncol* 4:1375-1381, 2018
4. American Society of Clinical Oncology: ASCO 2018 Cancer Opinions Survey, 2018. <https://www.asco.org/sites/new-www.asco.org/files/content-files/research-and-progress/documents/2018-NCOS-Results.pdf>
5. Greenlee H, DuPont-Reyes MJ, Balneaves LG, et al: Clinical practice guidelines on the evidence-based use of integrative therapies during and after breast cancer treatment. *CA Cancer J Clin* 67:194-232, 2017
6. Lyman GH, Greenlee H, Bohlke K, et al: Integrative therapies during and after breast cancer treatment: ASCO endorsement of the SIO clinical practice guideline. *J Clin Oncol* 36:2647-2655, 2018

AUTHOR CONTRIBUTIONS

Conception and design: All authors

Data analysis and interpretation: All authors

Manuscript writing: All authors

Final approval of manuscript: All authors

Accountable for all aspects of the work: All authors

ACKNOWLEDGMENT

Supported by Fred Hutchinson Cancer Research Center New Investigator Development funds and a Washington State Cancer Research Endowment Authority Distinguished Research Grant Award (DR20170929).

AUTHORS' DISCLOSURES OF POTENTIAL CONFLICTS OF INTEREST

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Consulting or Advisory Role: EHE

No other potential conflicts of interest were reported.