

Complementary medicine as a risk factor for catastrophic expenditures in people with cancer



Catastrophic expenditures or financial toxicity are common issues faced by people undergoing treatment for cancer.^{1,2} Catastrophic expenditures lead to all sorts of problems including increased mortality risk, worsened quality of life, and inability to complete treatment.^{3,4} Further, catastrophic expenditures can thrust households into impoverishment, which could have lifelong consequences not only for the person with cancer but also for other household members. Because of this threat, health systems in southeast Asia, especially those aiming for universal health coverage, have a responsibility to ensure that people with cancer are given financial protection, especially those arising from cancer treatment.⁵

Although there are many causes of catastrophic expenditure, Nirmala Bhoopathy and colleagues in *The Lancet Global Health*⁶ identified use of complementary medicine as a potential risk factor for catastrophic expenditure and impoverishment among people with cancer in southeast Asia. The authors found that increased out-of-pocket spending on complementary medicine increased the odds of financial catastrophe 1 year after diagnosis in upper-middle-income countries such as Malaysia and Thailand but not in lower-middle-income countries such as the Philippines and Vietnam. Their subgroup analysis further revealed that among socioeconomically disadvantaged individuals such as those with low income, those who were unemployed, or those who had previous experience of economic hardship, increased reported out-of-pocket expenses for complementary medicine during the first year of diagnosis was associated with increased odds of experiencing catastrophic expenditure and impoverishment.

If health systems in these countries are serious about providing financial protection, it is time to seriously consider action that will minimise complementary medicine expenditures among people with cancer. One option, as suggested by the authors, is to cover selected complementary medicine modalities with good evidence through government insurance and essentially push the adoption of integrative oncology. This suggestion is particularly relevant because in

Bhoopathy and colleagues' study the risk of catastrophic expenditure associated with complementary medicine occurred even in countries with relatively better universal health insurance coverage.⁶ The inadequacy of universal health insurance schemes to fully prevent catastrophic expenditures has also been observed in other contexts.⁷ Expansion to include complementary medicine under covered services might improve the situation. Additionally, given the special cultural place of several complementary medicine modalities in these countries, a policy of inclusion might be more acceptable to the population.

Unfortunately, implementing integrative oncology in the region faces several challenges. There is the difficult challenge of identifying which modalities improve survival or quality of life. One systematic review⁸ found few randomised trials related to complementary medicine and most were moderate or of low quality. More importantly, only six specific cancers were studied and only one study was done among the countries included in the study by Bhoopathy and colleagues. Although several countries in the region have the capability to conduct health technology assessments, the lack of studies, especially local ones, will preclude proper assessment and inclusion into covered health services. Another challenge is ensuring that integrative oncology does not get mixed up with unproven treatments.⁹ Safeguards against entry of unproven treatment into covered services are necessary to prevent unwanted mortality due to these harmful interventions.

Another important intervention is public health communication about complementary medicine use during cancer. Often, the decision to use complementary medicine is left to the patient, their family, and the provider. Given the current study, however, health systems should join the conversation. Again, outright discouragement is probably not the wise choice. The communication should be culturally sensitive while still sending caution about the risks of indiscriminate use of complementary medicine during cancer treatment. Needless to say, campaigns should be coupled with training of health-care providers on

See [Articles](#) page e416

how to communicate with people with cancer about complementary medicine use.^{10,11}

This study is an important first step, but it also has its limitations. The timing of the occurrence of catastrophic expenditures and the use of complementary medicine is unclear, so temporality cannot be demonstrated. New studies are needed to confirm complementary medicine's role in catastrophic expenditures and impoverishment. Second, although the ACTION cohort has been an important resource for cancer research and policy making in the region, it is a decade old. Countries have had changes in government and economic conditions and the COVID-19 pandemic has brought on several changes to how health systems operate. Establishing new cohorts is important to help shape cancer policy in these countries. Health systems should invest in these cohorts while taking advantage of the digitisation of health data and increased availability of remote data collection.¹² Rigorous research enabled by new cohorts will help southeast Asian countries successfully confer financial protection to people with cancer in the region.

I receive funding from the American Heart Association on topics outside the submitted work. The American Heart Association played no role in the development of this manuscript.

Copyright © 2022 The Author(s). Published by Elsevier Ltd. This is an Open Access article under the CC BY-NC-ND 4.0 license.

Adovich S Rivera
adovichrivera2021@u.northwestern.edu

Institute for Public Health and Management, Feinberg School of Medicine, Northwestern University

- 1 Gordon LG, Merollini KMD, Lowe A, Chan RJ. A systematic review of financial toxicity among cancer survivors: we can't pay the co-pay. *Patient* 2017; **10**: 295–309.
- 2 Kimman M, Jan S, Yip CH, et al. Catastrophic health expenditure and 12-month mortality associated with cancer in Southeast Asia: results from a longitudinal study in eight countries. *BMC Med* 2015; **13**: 190.
- 3 Carrera PM, Kantarjian HM, Blinder VS. The financial burden and distress of patients with cancer: Understanding and stepping-up action on the financial toxicity of cancer treatment. *CA Cancer J Clin* 2018; **68**: 153–65.
- 4 Lentz R, Benson AB 3rd, Kircher S. Financial toxicity in cancer care: Prevalence, causes, consequences, and reduction strategies. *J Surg Oncol* 2019; **120**: 85–92.
- 5 WHO. Primary Health Care on the Road to Universal Health Coverage 2019 Global Monitoring Report Executive Summary. Geneva: World Health Organization, 2021.
- 6 Kong Y-C, Kimman M, Subramaniam S, et al. Out-of-pocket payments for complementary medicine following cancer and the effect on financial outcomes in middle-income countries in southeast Asia: a prospective cohort study. *Lancet Glob Health* 2022; **10**: e416–28.
- 7 Pauge S, Surmann B, Mehlis K, et al. Patient-reported financial distress in cancer: a systematic review of risk factors in universal healthcare systems. *Cancers (Basel)* 2021; **13**: 1–19.
- 8 Lin WF, Zhong MF, Zhou QH, et al. Efficacy of complementary and integrative medicine on health-related quality of life in cancer patients: a systematic review and meta-analysis. *Cancer Manag Res* 2019; **11**: 6663–80.
- 9 Delgado-López PD, Corrales-García EM. Influence of internet and social media in the promotion of alternative oncology, cancer quackery, and the predatory publishing phenomenon. *Cureus* 2018; **10**: e2617.
- 10 Frenkel M, Ben-Arye E, Cohen L. Communication in cancer care: discussing complementary and alternative medicine. *Integr Cancer Ther* 2010; **9**: 177–85.
- 11 Koenig CJ, Ho EY, Trupin L, Dohan D. An exploratory typology of provider responses that encourage and discourage conversation about complementary and integrative medicine during routine oncology visits. *Patient Educ Couns* 2015; **98**: 857–63.
- 12 Greenleaf AR, Gibson DG, Khattar C, Labrique AB, Pariyo GW. Building the evidence base for remote data collection in low and middle-income countries: comparing reliability and accuracy across survey modalities. *J Med Internet Res* 2017; **19**: e140.