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Screening for lung cancer has limited effectiveness globally and distracts from much needed efforts to reduce critical levels of worldwide prevalance of smoking

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Lung cancer is responsible for 27% of all cancer deaths and is the leading cause of death from any malignancy in both sexes. The American Cancer Society estimated 224,390 new cases in the United States in 2016. And an estimated 158,080 individuals will die of lung cancer itself. Worldwide 1.8 million new cases of lung cancer were diagnosed in 2012. Hence screening strategies for early detection of lung cancer have been considered important. Results of the National Lung Screening Trial showed a 20.3% improvement in mortality through early detection using low dose computerized tomography. However reduction in all-cause mortality was only 6.7%. Also numbers needed to screen remain impractical and costs prohibitive, being nearly $615,000 per QALY gained. Incorporation of other clinical and molecular data is still unlikely to make screening cost effective. Even otherwise generalizability is limited as more than 90% of the study population was represented by Caucasians. Smoking is also directly implicated with morbidity and mortality from diseases other than lung cancer. And worldwide over 6 million people die every year from smoking related illnesses including lung cancer. The CDC estimates indirect costs at nearly $97 Billion from productivity losses, $96 Billion in avoidable healthcare expenses and $2 Billion in pregnancy complications. The findings in this paper support changes in public policy as well as use of social influence models to reduce smoking prevalence. Policy changes include increased taxation and changing the legal age for cigarette consumption. Age is important because the greater the age of initial smoking, lesser the likelihood for long term use. Social influence models can augment these efforts by reducing uptake of smoking by 35-40%. These changes are especially important considering the estimate by the WHO that new cases of cancers are expected to increase worldwide by 70% over the next 20 years.

Recent Publications

1. Aberle DR, Adams AM, Berg CD, et al: Reduced lung-cancer mortality with low-dose computed tomographic screening. N Engl J Med 365:395-409, 2011.
2. Ng M, Freeman MK, Fleming TD, et al: Smoking prevalence and cigarette consumption in 187 countries, 1980-2012. JAMA 311:183-192, 2014.
3. Carter BD, Abnet CC, Feskanich D, et al: Smoking and mortality–beyond established causes. N Engl J Med 372:631-640, 2015.
4. Smoking and Tobacco Use. https://www.cdc.gov/tobacco/data_statistics/fact_sheets/fast_facts.
5. WHO fact sheet on cancer providing key facts and information, www.who.int › Media centre › Fact sheets, 2018.
6. Verghese C, Redko C, Fink B. Screening for Lung Cancer Has Limited Effectiveness Globally and Distracts From Much Needed Efforts to Reduce the Critical Worldwide Prevalence of Smoking and Related Morbidity and Mortality. Journal of Global Oncology, no. 4 (January 2018) 1-7.

Biography

Cherian Verghese is a graduate of the Hematology & Oncology training program from the Tulane University in New Orleans, Louisiana in the United States. Prior to this he had completed medical school training from the University of Kerala in India. He is board certified by the ABIM in the disciplines of Internal Medicine, Oncology and Hematology. He has also completed an MPH in Global Health from the Tulane University School of Public Health. At the present time he is the Program Director of the Oncology Fellowship training at the University of Toledo, Ohio besides also providing academic support for the Internal Medicine and Family Practice residency programs. Dr. Verghese has research interests with preventive measures in cancer and cost effectiveness of health care. His clinical interests include Leukemia's and Lymphoma's while also managing the Benign Hematology clinics at the Eleanor N. Dana Cancer Center of the University of Toledo.

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