

Abstract

Opportunities to Reduce Lung Cancer Disparities Among African Americans through Informatics: A Systematic Review

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Studies indicate that risk of lung cancer can be reduced by environmental and community factors, such as opportunities for physical activity, access to fresh fruits and vegetables, access to health care, and tobacco cessation programs. However, little is shown in the existing literature in PubMed, about informatics approaches to reducing this risk among African American populations. The participant will be able to identify the level of evidence on lung cancer prevention strategies and introduce informatics, reduce the gap between research and practice by adapting informatics implementation, and evaluate the usability and feasibility of applied technologies. Through a systematic literature review using PubMed, we identified articles that meet our eligibility criteria based on the PRISMA guideline: 1) English language, 2) original research, and 3) proposed and evaluated lung cancer preventive interventions among African Americans. Ten articles out of 145 met our criteria; two examples of informatics implementation were discussed. First, five articles suggest that billboards and social media are effective platforms to affect the perceptions of both smokers and non-smokers. Second, three studies suggest that smoking cessation programs such as gene therapies and personalized genetic testing can be introduced to increase adherence rates among African Americans. Few articles propose and evaluate health informatics applications. Further research is needed to highlight the role of informatics and demonstrate increased African American adherence rates of smoking cessation programs or lung cancer screening trials with the help of informatics tools. The gap between research and practice on preventing lung cancer among African Americans in the United States is identified. Limitations include using PubMed as the only database, and restricted keywords to identify eligible articles. Using multiple databases may find more examples of informatics approaches. Researchers should design and develop informatics tools that reduce the risk of lung cancer. An example includes online cancer support communities to bridge the gap between knowledge and action.

Communication and informatics

