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Improving Staff Education on Lung Cancer Screening at the Illinois Correctional Facilities for the Justice-Involved Individuals

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Executive Summary

Introduction of the Problem

Justice-involved individuals are at an increased risk of developing chronic health conditions, including lung cancer. Lung cancer is the leading cause of cancer deaths and the second most diagnosed cancer in both men and women in the United States (CDC, 2022). Cigarette smoking is the number one cause of lung cancer. According to the Tobacco Control Legal Consortium (2012), studies estimate that between 70 and 80 percent of all justice-involved individuals in the U.S. smoke or use tobacco products, which is up to four times the national average. They also experience disproportionately high rates of mental illness and substance use disorders, which are both risk factors for smoking and smoking-related health outcomes (Ahalt et al., 2019). This population has an unusually high rate of developing lung cancer due to several different risk factors and it is also often diagnosed in the late stage.

Illinois Correctional Facilities lacked a lung cancer screening protocol for justice-involved individuals. Lung cancer screening guidelines were approved for the facilities, however, the time frame for implementation was unclear. This project focused on lung cancer screening education for staff members to prepare them for implementation.

Literature Review

Literature supports the practice of using an annual low-dose CT scan to screen for lung cancer. The literature review focused on evidence-based guidelines and educational tools about lung cancer screening. The United States Preventative Services Task forces recommends an annual low dose computed tomography (LDCT) for all adults aged 50-80 years who have a 20 pack-year smoking history and currently smoke or have quit within the past 15 years (USPSTF,

2021). In addition, the American Cancer Society (ACS) recommends annual screening for lung cancer with LDCT for all adults aged 55-74 years who are in good health who meet the following criteria: currently smoke or have quit within the past 15 years and have at least a 30-pack year smoking history (2018).

Justice-involved individuals were identified as having an increased risk for lung cancer. Justice-involved individuals were more likely to have a late-stage cancer diagnosis compared to the general population due to lack of resources and cancer screening tools (Sunthankar et al., 2020). There were many incentives identified for justice-involved individuals such as early detection of lung cancer, increasing life expectancy, and decreasing mortality. In the National Lung Screening Trial (NLST), the LDCT screening compared to radiograph decreased mortality in a high-risk population (Deffebach & Humphrey, 2021). There were barriers such as radiation exposure to patients, transportation fees, and cost of LDCT. The implementation of lung cancer screening for the Illinois Correctional Facilities would be beneficial for high-risk justice involved individuals. An educational program to coordinate with the lung cancer screening guidelines for staff members was implemented in preparation for this practice change.

Project Methods

Our project was proposed to educate the Illinois Correctional Facilities staff about the lung cancer screening program. The staff learned about the magnitude of the lung cancer issue among this population and what can be done about it. The education was presented via PowerPoint. A pre/post-test was used to determine effectiveness of the presentation and presented through QR codes and links via SurveyMonkey. A PowerPoint presentation was used as the educational tool. The PowerPoint presentation, which was approximately 10 minutes long, consisted of key elements of lung cancer screening guidelines for the justice-involved individual. Pre/post-tests consisted of 10 questions that were used as a method of evaluation. An

instructional sheet with steps 1, 2, and 3 with appropriate links were presented to staff members through the stakeholder. The first step was to take the pretest to evaluate their knowledge on lung cancer screening. The second step was to watch the PowerPoint presentation. The third step was to take the post-test. Southern Illinois University Edwardsville's IRB determined this is not a human research project.

Evaluation

The objective for this project was to increase knowledge of lung cancer screening among the staff members at the Illinois Correctional Facilities. The outcome of the pre and post-tests revealed an increase in knowledge of lung cancer screening. Although there were only 13 participants, a successful learning experience was identified with evaluation of pre/post-tests. The pretest had an average score of 70%. One of the most missed questions at 54% correct response rate was, what screening tool is used for lung cancer screening; the post-test showed 92% which was a 38% improvement. Another question that was frequently missed was how often justice-involved individuals be screened for lung cancer, the pretest was at 54% correct response rate, and the post-test was at 83%. All the questions indicated an improvement on post-test

Our educational goal for improvement was set at a 25% increase from pre-test to post-test. The post-test revealed an average score of 97% correct response rate. This data showed an average increase of 27% which indicated a successful learning experience. One of the post-test questions that reinforced educational goals was, I feel confident applying U. S. Preventive Services Task Force (USPSTF) guidelines for lung cancer screening for justice-involved individuals with a 100% response of yes. This was increased from the pre-test by 32%.

Unfortunately, there were limited participants even after emails and follow up communication with stakeholder.

The project did have limitations due to restraints with COVID-19. The project had to be presented virtually as we were not allowed to visit the facilities. The stakeholder had to distribute the PowerPoint presentation with pre/post-tests to directors who then had to distribute them to staff members. This directly affected participation of the project. It was unclear on how many directors received project information or facilities involved. To increase participation the PowerPoint presentation and pre/post-tests were changed from links to QR codes.

Impact on Practice

In reviewing results of the project, the pre/post-tests revealed a positive learning outcome with improved staff knowledge of lung cancer screening. However, there were minimal participants in the survey. The immediate impact on the Illinois Correctional Facilities is increased knowledge of the staff. Ideally the lung cancer screening guidelines would have been implemented along with the lung cancer screening PowerPoint presentation. Although the lung cancer screening guidelines were approved for the justice-involved individuals, it was unclear when they were going to be implemented. The education tool for lung cancer screening would be a more successful implementation once they are ready to use the lung cancer screening guidelines.

Conclusions

There was a 27% increase in correct response rate for lung cancer screening awareness questions after watching the presentation, implying this was a successful strategy for improvement of knowledge. The Illinois Correctional Facilities will be implementing lung

cancer screening guidelines for justice-involved individuals in the future. The presentation and pre/post-tests could be a recommended education tool when the lung cancer screening guidelines go live in the facilities.

For the future projects with correctional facilities, it would be beneficial to coordinate with the director who is over targeted staff members. In addition, having a hands-on approach by presenting the presentation and pre/post-tests in person would potentially increase participation in the project.

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