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Evaluating the Impact of a smoking cessation program.

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This is to certify that the doctoral study by

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has been found to be complete and satisfactory in all respects,
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Walden University
2017

Abstract

Evaluating the Impact of a Smoking Cessation Program

By

Gideon Eke

MS, Morgan State University, 2009

BS, Washburn University, 1991

Project Submitted in Partial Fulfillment

of the Requirements for the Degree of

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Abstract

Forty-six million individuals in the United States used tobacco products. People who use tobacco products attempt numerous strategies before giving up smoking habit altogether. The goal of this project was to evaluate the impact of a tobacco cessation program by evaluating pre-and post-cessation program data, and hospital records of participants attending the hospital smoking cessation program over a 6-month period to ascertain the degree of reduction in tobacco use and hospitalization from smoking-related diseases. The population sample comprised of both men and women between the ages of 18 years and above. The project question addressed whether the smoking cessation program had an impact on reducing the rate of tobacco use and hospital readmissions after attending a cessation program at a medical center. A paired samples *t*-test was conducted to analyze the pretest and posttest results. There was a statistically significant decrease ($p < .001$) in the participants' (N=49) rate of smoking after completing the smoking cessation program that lasted 6 months. The mean on smoking cessation pre-participation was 13.7 (SD = 1.56). The mean on smoking cessation post-six months participation was 6.67 (SD = 1.81). There was a statistically significant decrease in the rate of hospital admissions among participants. The mean on pre-participation hospital admissions was 4.18 (SD = .727). The mean on post-participation hospital admissions was 1.41 (SD = .643). Smoking cessation programs impact social change by improving the quality of life of participants and their families and decreasing the financial impact of hospital readmission cost

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Dedication

I dedicate this paper to my charming wife Petronilla Eke, my children, namely Sandra, Nathan, Linette, Laura, Amanda, and Daniel, and in-laws. I also would like to remember my grandchildren Victoria and George Furguson. Thank you for your understanding, encouragement, and support during this academic endeavor. You are truly my precious friends.

Acknowledgments

I would like to use this opportunity to express my sincere appreciation to all the faculty members at Walden University School of Nursing and especially Dr. Diane Whitehead for making this academic journey a successful one. Your motivation and knowledge have guided me through this DNP program. Also, I would like to extend my special gratitude to my son and wife, Daniel and Petronilla Eke, respectively for assisting me to achieve this milestone.

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Section 1: The Nature of the Project

Introduction

The Centers for Disease Prevention and Control (CDC, 2016) identified that 46 million individuals in the United States use tobacco, leading to an increase in the frequency of tobacco use-related diseases, including lung cancer, congestive heart failure, asthma, and peripheral vascular disease. Smoking is responsible for more deaths yearly than illegal drug use, human immunodeficiency virus (HIV), alcohol use, motor vehicle injuries and firearm-related incidents (CDC, 2016). Smoking is responsible for more than 480,000 deaths annually in the United States, with more than 41,000 of the deaths from exposure to secondhand smoke (U.S. Department of Health and Human Services [DHHS], 2014). This figure signifies nearly one in every five deaths nationally (CDC, 2016). Additionally, smoking accounts for almost 5.4 million deaths each year and one in 10 adult deaths globally (Greene, F., Johnstone, D., Strand, W, 2014). The tobacco-associated diseases in the United States cost more than $300 billion annually, including almost $170 billion in providing medical care for adults and $156 billion in lost productivity (CDC, 2016). Globally, tobacco use and smoking causes approximately five billion dollars in economic damage yearly (Ekpe & Brown, 2015).

The arduous task of quitting smoking is compared to the problematic undertaking of stopping using a drug (Goren et al., 2014). Some smokers with depression, ill-health, social alienation, stress, unemployment, and particularly those with lower socioeconomic status may be disillusioned and tend to find solace in smoking, which may make it even tougher to quit.

In 2015, 6.5% of African-Americans (9.1% of males and 3.7% of females) used tobacco products (Roberts et al., 2016). The National Health Interview Survey (NHIS, 2015), stipulated that among adults between the ages of 18 and above, 16.8% of African-American adults in the United States are presently smokers (Roberts et al., 2016). A concern was that in some communities, over half of the young adults (18-24 years old) smoke cigarettes (Robert et al., 2016).

Problem Statement

The government policy of providing only limited sessions as well as instituting individualized therapy based on patients' smoking patterns and preferences during counseling with a physician did not give ample time to help patients quit CDC, 2014; Hajek et al., 2013 ; Halladay et al., 2015). The time allotted for health professionals to educate and counsel smokers during sessions leading to a positive outcome was inadequate. These gaps resulted in the inability of professionals to provide adequate information to smokers, making it difficult for some people to quit smoking. Unfortunately, by not allowing sufficient time to counsel smokers and reimburse the professionals for providing information, smokers continued to grow.

The Affordable Care Act (ACA) introduced the Hospital Readmissions Reduction Program. This program called for monitoring hospital Medicare reimbursements with approximately 3% of the hospital's payment deducted if a patient is readmitted to the hospital within 30 days of discharge. The inclusion criteria include that the readmitting patients should have certain conditions such as chronic obstructive pulmonary disease,

myocardial infarction, and heart failure (Centers for Medicare & Medicaid Services, 2016).

This project utilized pre-and post-cessation program data, and records gathered from the archives of the hospital to ascertain the degree of reduction in smoking and hospitalization from smoking-related diseases. The result aided in evaluating the impact of the cessation program among the participants who took part in the study. Data were analyzed through *t*-test analytical statistics to obtain significant results.

Purpose Statement

This project aimed to evaluate the impact of a tobacco cessation program by evaluating pre-and post-cessation program data, and hospital records of participants attending the hospital smoking cessation program over a 6-month period to ascertain the degree of reduction in tobacco use and hospitalization from smoking-related diseases. The practice focused question was: Was there a significant difference in the rate of smoking and re-hospitalizations within 30 days before and after participation in a hospital smoking cessation program?

The hospital had a smoking cessation program for patients, using pharmacologic and counseling strategies. The program was opened to all smokers in the clinic 18 years and older. The hospital-based tobacco cessation program focused on enhancing behavior modification through individual motivation and willingness to adapt and desist from old habits. The DNP project utilized pre-and post-cessation program data, as well as hospital records gathered over a 6-month period to ascertain the degree of reduction in smoking and hospitalization from smoking-related diseases.

Nature of the Doctoral Project

The site for this scholarly project was an urban medical center in the southeast United States. Information on the patients partaking in the program commencing May 2016 to November 2016 was collected pre-and post-intervention. Approximately all participant's data retrieved from the clinic's archive was reviewed to determine the effectiveness of the program. This project employed the CDC framework for program evaluation as a tool. This model was used in framing this project question and assessing, evaluating, and disseminating the outcome of the project.

Currently, the incidence rate of smoking and smoking-related health issues among smokers is steadily increasing (CDC, 2016; Larzelere & Williams, 2012). This recent surge in smoking became a great concern to governments, agencies, and clinics thus, stakeholders have deemed it imperative to promote smoking cessation programs. The rate of smoking was exponentially increasing at the site of study, especially in the African-American population. Also, most of the Medical Center's patients were low-income individuals with a mean income of approximately $30,000 annually. Unfortunately, people with low-income status like patients at the medical facility tend to use tobacco products more regularly than the general population (CDC, 2016; Larzelere & Williams, 2012).

The income level for most people living in the area was $36,949.41 per year. The area in which the medical center was located had no regulatory and environmental

policy. The mission of the medical center was to provide healthcare services and enhance the health of patients and other healthcare consumers (Brown, Hayes, Wyatt-Nichol, 2011).

Significance

This DNP project was significant to those participants that planned to participate in the smoking cessation program by providing data on the effectiveness of the program. Evaluation of the program assisted stakeholders in identifying areas of improvement. Matthews et al., (2013), evaluated smoking cessation treatments offered as part of health promotion services. The program established evidence-based strategies for treating patients with tobacco addiction. The study proposed that program's treatments for quitting smoking accessible in a medical center were valuable for reducing smoking among the patients who smoke. Hence, quit rates were consistent with the center's program goal. The overall cessation rates ranged from 23.3 to 39.1% at the completion of treatment provided by the cessation program.

Summary

Section 1 included the problem, purpose, inquiry, and the synopsis of the evidence-based project to evaluate a smoking cessation program in a medical center. This summary phase was significant to the participants who planned to participate in the smoking cessation program by providing data on the success of the program. Evaluation of the program supported stakeholders in recognizing areas of improvement. It also, addressed the issue of tobacco use in a medical facility through the application of tobacco

use cessation approaches and providing significant support for the susceptible population of adults (18 or older) who were smokers at the medical center.

Section 2: Background and Context

Introduction

This DNP project evaluated the impact of a smoking cessation program by evaluating pre-and post-cessation program data, and hospital records of participants attending the hospital smoking cessation program over a six-month period to ascertain the degree of reduction in tobacco use and hospitalization from smoking-related diseases. Section 2 identified the framework for this project. The current evidence related to tobacco cessation programs was introduced. The role of the DNP student and the relevance of the project to nursing practice was explored.

Concepts, Models, and Theories

In 1999, the CDC (2017) formulated a framework for program evaluation in public health. There were six steps involved in the CDC framework:

- Engaging stakeholders
- Describing program
- Focusing the evaluation design
- Gathering credible evidence
- Justifying the conclusion,
- Ensuring use and sharing lessons learned (CDC, 2017).

Engaging Stakeholders

The participants in this evaluation process were medical center staff responsible for implementing the program. The stakeholders' roles in the evaluation process entailed providing input about proper evaluation of participants as well as the efficient methods to

access them. Evaluation questions, data collection tools, and data collection plans were among the roles of the stakeholders. Stakeholders also evaluated the program regarding the quality of interpreting results and disseminating evaluation findings.

Describing the Program

This section of the CDC evaluation framework dealt with developing a clear and brief account of the smoking cessation program. It clarified the purpose of the cessation program. The description of the program was significant as it ensured stakeholders sharing the same vision and mission about the program's implementation and proposed objectives (Honeycutt et al., 2015). A common and shared comprehensive understanding of a program as well as what the evaluation could achieve was vital to the success of implementation of evaluation of impact of smoking cessation program. The program and stakeholders should agree on the purpose and focus of the evaluation (Honeycutt et al., 2105).

Focusing on the Evaluation Design

The evaluation included reviewing pre-and post-cessation program data and hospital records of participants attending the hospital smoking cessation program over a six-month period to ascertain the degree of reduction in tobacco use and hospitalization from smoking-related diseases.

Gathering Credible Evidence

Participants' data from the tobacco cessation program from May to November 2016 were reviewed to determine the level of reduction in smoking and hospitalization from smoking-related diseases. Quantitative statistics were used to evaluate the data.

Justifying Conclusions

The smoking cessation program findings and recommendations were utilized for program improvement as well as to inform future initiatives (Honeycutt et al., 2015). The smoking cessation programs' outcomes also empowered participants who took part in the cessation program to learn the process of caring for their health by quitting tobacco use. The findings of this project may assist other clinics that participate in smoking cessation program to encourage smokers to reduce or stop tobacco use.

Lessons Learned

I presented the finding of the DNP project to stakeholders through a poster presentation format. The results of the smoking cessation program evaluation created a stronger collaborative effort to achieve the reduction in tobacco use and hospital readmissions among smokers. Lessons learned from the evaluation process were utilized efficiently to guide smoking and hospital readmissions among smokers (Honeycutt et al., 2015).

Definition of Terms

Tobacco cessation Program: Refers to program designed to assist smokers to quit smoking. As stated by the CDC (2016) smokers who take part in cessation programs are more likely to succeed in quitting smoking than those attempting to quit without assistance.

Relevance to Nursing Practice

Sarna et al. (2016) found that nurses played a vital role in assisting smokers to quit smoking. The authors employed about 2,000 nurses from eight hospitals to evaluate

the rate of health education provided by nurses. All the studies used in these nurse-led tobacco cessation programs focused on the roles played by nurses to decrease tobacco use. Presently, nursing practice and scope is increasing which gives nurses the autonomy to include the provision of education and counseling to smokers to quit tobacco use (Keeling, 2015). Nurses employed website training to determine the effectiveness of counseling on the rate of smoking cessation. The grounded theory is an approach aimed at examining the nurse's impact on tobacco cessation programs. An in-depth interview was conducted using 16 nurses trained as smoking counselors. The keywords used in the study include *smoking cessation, counselor, nurse, inpatient smoker, quantitative research, and in-depth interviews.* All the authors who studied nurse-led tobacco cessation programs agreed that nurses

providing intensive counseling were more beneficial and efficient than those who provided a minimal period of counseling. Hospital environment created a forum for nurses to provide smoking cessation education and counseling to patients who were willing to quit tobacco use. Li et al.2014; Sarna et al. 2016; Ritsema, Bindenheimer, Scholting, & Cawley 2014 suggested that it was achievable to utilize a long-distance as well as web-based learning instruction to promote nurse's ability to deliver smoking interventions to smokers. In the long-term, it was evident that all nurses be proficient in evidence-based smoking cessation approaches. Although most nursing schools had incorporated curriculum about the harmful effect of tobacco use, fewer schools presently embrace cessation interventions in the content.

Federal initiatives.

The U.S. Surgeon General (2014) stated that smoking and tobacco use was accountable for more than 480,000 deaths yearly in the United States. The CDC (2014) reported that smoking was the leading preventable cause of mortality. The U.S. Department of Health and Human Services (DHHS, 2014) asserted that individuals from certain racial/ethnic minority groups, people of lower socioeconomic standing, and pregnant women smoked disproportionately and carried a burden of risk for tobacco use and associated illness and death.

The most important points extracted from the above organizations include the followings:

- Smoking rates of 32.4% were highest among Native Americans/Alaska Natives (CDC, 2014).
- African Americans had lower smoking rates as opposed to American Indians/Alaska Natives and European Americans (21.3%, 32.4%, and 22% respectively), and they had the greatest burden of tobacco-caused cancer (CDC, 2014).
- Thirty-one percent of individuals living in poverty smoked, and adults with low educational achievement continuously had the most significant challenges (CDC, 2014).
- Huge disparities exist by race/ethnicity, age, and socio-economic status in secondhand smoke exposure (U.S. DHHS, 2014).

- Among the most exposed were 71% of African Americans, 63% of low-income individuals, and 61% of children aged 4-11 years (U.S. DHHS, 2014). Tobacco use and women were equally a unique challenge.

  Approximately one in six American women presently smoke (CDC 2014). The CDC, 2014 stipulated that key points noted in the 2014 Surgeon General's report about women includes that who smoke have increased risk of dying from bronchitis, trachea, lung cancer, and emphysema by more than 12 times the normal amount. The CDC (2014) remarked that smoking intensified the risk of dying from coronary cardiovascular disease among middle-aged women by almost five times. It was noted that during 2010–2014, approximately 282,000 women (56,359 women each year) would die from lung cancer (CDC, 2014).

According to the US DHHS (2014), in 1987, lung cancer surpassed breast cancer to become the leading cause of cancer death among U.S. women. To address the tobacco problem, the United States Public Health Service (PHS) presented a standardized treatment for tobacco use and dependence, and clinical practice guidelines. The PHS guidelines provided information about tobacco cessation at the public health and public policy level, and gave instructions for providers about tobacco assessment and treatment. The key guideline recommendations from the treatment protocol comprised of nicotine dependence which is a chronic disease that often required repeated intervention and multiple attempts to quit. It was crucial that clinicians and healthcare delivery systems continuously recognize and document tobacco use standing and treat each tobacco user seen in a health setting. Nicotine dependence treatments were effective across a broad

range of populations. Brief smoking treatment was effective. Individual and group telephone psychotherapy were effective, and their effectiveness increased with treatment intensity. Numerous effective medications were available for nicotine dependence, and health professionals should encourage the use of medications to help quit smoking, except when medically contraindicated. Counseling and medication were effective when used alone for treating nicotine dependence. Nicotine dependence treatments were both clinically effective and highly cost-effective interventions for other clinical disorders (U.S. DHHS, 2014).

The purpose of the tobacco control legislation and policies was to prevent individuals, predominantly children, from using tobacco products as well as assist people to quit. The policy aided in reducing the harmful effects caused by smoking (U.S. DHHS, 2014). Decision makers enacted numerous federal statutes, regulations, and legal agreements governing the advertisement and marketing of tobacco products. The Attorneys General of 46 states and the District of Columbia signed the Master Settlement Agreement (MSA) of 1998 with the four largest tobacco companies in the United States. The other four states had previously reached an agreement with the tobacco companies. Since signing the agreement, approximately 40 more tobacco companies have been contracted as well as bound by its terms (U.S. DHHS, 2014). The MSA stipulated that the agreements bind the participating tobacco companies to pay the states billions of dollars yearly to reimburse for tobacco-related health care costs. Another agreement entails limitations on advertising, marketing, and promotion of cigarettes. There are bans on tobacco advertising that targets adolescents younger than 18, including the use of

cartoons. Restrictions on outdoor, the agreement covers billboard and public transit advertising. Most importantly, the prohibition on the use of cigarette brand names on other products and providing tobacco company internal documents to the public were among the agreements (U.S. DHHS, 2014). Table 1 depicted significant federal tobacco control efforts.

Table 1

Federal Tobacco Control Legislation

Year	Legislation
1964	The initial report of the surgeon general's advisory committee on smoking and health which recognizes tobacco use and smoking as a key reason for increased mortality.
1965	Federal Cigarette Labeling and Advertising Act which requires a health warning on cigarette packages. It necessitates federal trade commission to submit an annual report to Congress on tobacco industry advertising and labeling practices. It also requires department of health, education, and welfare to submit annual report to Congress on health consequences of smoking.
1970	Public Health Cigarette Smoking Act which requires a health warning on cigarette packages and prohibits cigarette advertising on television and radio.
1984	Comprehensive Smoking Education Act, institutes the utilization of four cautionary health labels, all listed as Surgeon General's Warnings, on cigarette packages and advertisements.
1986	Comprehensive Smokeless Tobacco Health Education Act, which establishes the utilization of health warning labels on smokeless tobacco packages and advertisements. It also prohibits smokeless tobacco advertising on television and radio and necessitates department of health and human services to issue a report every two years to Congress on smokeless tobacco. That requires not only that the federal trade commission to report annually to Congress on smokeless tobacco sales,

	advertising, and marketing, but also necessitates smokeless industry to give the private list of nicotine content in smokeless tobacco produc
1988	Amendment to Federal Aviation Act makes domestic flights of two hours or less smoke-free. Pass regulation in a manner that could practically reduce the accessibility of tobacco products to youth under 18 years old.
1999	The National Tobacco Control Program (NTCP) collaborates with initiatives from various organizations such as the National Cancer Institute, Health Interview Survey, Youth Risk Behavior Surveillance System, and National and state Adult Tobacco Surveys (Centers for Disease Control and Prevention, 2014). These organizations provide comprehensive data from various populations that are essential for surveillance and evaluation, principally tobacco use.
2000	Wendell H. Ford Aviation Investment and Reform Act which bans smoking on all flights between the United States and foreign destination (U.S. Department of Health & Human Services, 2014).

Adapted from: U.S. Department of Health and Human Services. (2014). The health consequences of smoking*:* 50 years of progress. *A report of the Surgeon General.* Atlanta, GA: National Library of Medicine.

The burden on state Medicaid programs included the adverse health consequences and costs because of cigarette smoking and tobacco use. By financing comprehensive tobacco cessation programs, states had reduced smoking rates as well as health care costs which in turn had improved clinical outcomes. Tobacco treatment was one of the most cost-effective preventive services with as much as a two-to-three dollar return on every dollar invested (Centers for Medicare & Medicaid Services, 2017).

The CDC, (2014) made recommendations on the community-based model to install permanent changes in social norms. The social norms were based on evidence that approaches with the greatest span such as economic, regulatory, comprehensive, and jurisdictional reach a significant number of smokers which had the greatest population impact (CDC, 2014). The recommendations were the interventions to prevent tobacco use

initiation and encouraging smoking cessation among young adults which reshaped the environment hence supported tobacco-free norms. Among other recommendation were increasing the unit price of tobacco products, comprehensive smoke-free air laws, and state tobacco control programs which were effective strategies for limiting youth and adult from smoking. Community programs, school and college policies should be part of a comprehensive effort to assist smokers quit tobacco use. Harmonization and implementation to create tobacco-free social norms, and raising the unit price of tobacco products should be added to the recommendations. Sustaining anti-tobacco media campaigns, making environments smoke-free, restricting minors' access to tobacco products with active enforcement of retailer sales laws would is worth recommending.

The National Prevention Strategy Recommendation Initiatives included some recommendations as supporting the comprehensive tobacco-free society which would assist in reducing rate of hospital readmissions among smokers. Increasing the use of smoking cessation programs and services in the medical centers would enhance smoking cessation among smokers. Employing media to disseminate, educate, and encourage people to live a tobacco-free life would reduce the premature death caused by tobacco use (CDC, 2014).

Tobacco cessation programs systematic reviews.

The Cochrane Database of Systematic Reviews studied 24411 articles between 1994 to 2015. The systematic reviews utilized the keywords as tobacco, smoking cessation, and limiting the search to tobacco cessation programs. The systematic reviews used randomized controlled trials or quasi-experimental controlled trials which employed

23 to 13049 participants on the use of mobile phone, workplace interventions, raising awareness, and education, motivation, behavioral change, and medications in smoking cessation programs. There were other concepts included in a systematic review such as e-cigarette and a complete smoking ban in smoking cessation program. All the authors of the study concluded that the interventions increase the likelihood of quitting tobacco use (De Andrade & Kinner, 2016; Cantera et al., 2015; Ford et al., 2013; Ghorai et al., 2014; Minichiello et al., 2015; Rahman et al., 2015).

Hospital-based smoking cessation program.

Cochrane Tobacco Addiction Group register included studies identified from CENTRAL, MEDLINE, and EMBASE in December 2013 for studies of interventions for smoking cessation in hospitalized patients. The terms used in the studies include hospital, patient, inpatient, readmission, and admission. The studies utilized systematic reviews of randomized and non-randomized controlled trials as well as quasi-randomized trial consisting of 1147 references, nine studies, and 10204 participants, up to 48 months of follow-up. The principal focus of the studies was to determine the effectiveness of evidence-based interventions delivered during hospitalizations and smoking cessation that were initiated for hospitalized patients. All the authors involved in the studies concluded that evidence-based interventions delivered during hospitalization and follow-up support lasting approximately one month after discharge raised smoking cessation rates which in turn decreased hospital readmissions (CDC,2014; Golechha, 2016; Hassan et al., 2012; Japuntich et al., 2012; Rigotti et al., 2012).

Systematic reviews summary

The overview of all the systematic reviews such as workplace study, a complete smoking ban, and public education provided during hospitalization with follow-ups revealed substantial evidence supporting that some interventions resulted in smoking cessation, as well as a, decreased in hospital readmissions among smokers. The use of federal tobacco strategies including educational campaigns, a quit line, regulating sales also assisted in quitting smoking. In a low socioeconomic class of smokers, eight studies embraced peer-support interventions which improved smoking cessation program as well as applying knowledge, pharmacological interventions, and motivation yielded a better productive result.

Tobacco cessation programs in peer-reviewed publications.

The peer reviewed publications used in this section were conducted during 2013 to 2015 period and used the randomized controlled, single-blind trial of 65 smokers and retrieved 131 different articles, 43 electronic, and seven databases. The focus of the peer review publications was to determine the feasibility of using interventions such websites, the initiation, consumption, and quit rates of commercial tobacco use, motivational interviewing, as well as changes in knowledge, and smoke-free environments in native populations as a smoking cessation program intervention. The keywords used were smoking cessation and randomized controlled. The authors asserted that smoking interventions were effective in producing positive changes as a tool for smoking cessation (Gabble et al., 2015; Minichiello et al., 2015; Parks et al., 2016; Powell, et al., 2016; Wilson et al., 2012).

Diseases caused by smoking and tobacco use.

The CDC (2014), asserted that approximately 16.8% (40.0 million of adults in the United States of America) currently use tobacco products. These high rates of tobacco consumption resulted in an increase in the incidence of smoking-associated health problems including lung cancer, oral cancer, bronchitis, and asthma (American Lung Association, 2017; National Cancer Institute, 2014; U.S. Department of Health and Human Services, 2012). The World Health Organization emphasized that smoking and tobacco use was harmful to humans which were not only limited to lung cancer, heart disease, and emphysema but also exacerbated pre-existing conditions as mental illnesses and substance abuse issues (Eriksen et al., 2015). Hence, the need for an evidence-based smoking cessation program that assisted smokers to build a better means of comprehending the rationale for smoking, educate people the best strategies for managing nicotine withdrawal as well as resisting the desire to smoke (American Lung Association, 2017).

The best practices for comprehensive tobacco cessation programs include those activities focusing on as well as employing the key broad objectives as promoting health systems change; expanding insurance coverage for evidence-based cessation treatments; and supporting state quit line capacity (CDC, 2014). Health systems change entails imbuing cessation interventions in health care systems into routine clinical care. These actions intensified the possibility that health care providers consistently screen patients for tobacco use and interceded with patients who smoke, hence increased smoking cessation. Expanding smoking cessation insurance coverage eliminated administrative costs that stopped smokers from accessing cessation psychotherapy and medications. Not

only that increasing insurance privileges enhanced the number of smokers who use evidence-based cessation treatments but also improved the potential to reduce tobacco-related population disparities. Quit lines posed extensive reach, increase quit rates, and were efficient and tailored to different smokers. Quit line services were free, did not involve cost and transportation issues. They were the most accessible cessation resources as well as being confidential. Quit line counseling was made available to all tobacco users willing to access the services (CDC, 2014). Health care practitioners adopted to evidence-based strategies as a cognitive-behavioral approach in the treatment of smokers. This method entailed the combination of cognitive interventions with behavioral skills training. It was also associated with pharmacotherapy which significantly increased the rate of success in attempts to quit tobacco use (Jesus et al., 2016).

Based on the growing body of evidence from various literature about the harmful effect of smoking on health, different control policies were employed such as health promotion actions. Such implementations comprised of tobacco taxation, mass advertising campaigns in the media, education programs, and community mobilization. Motivational interviewing, health warnings on tobacco products, marketing restrictions, and banning smoking in public places were among the smoking cessation implementations (De Andrade, & Kinner, 2016; Golechha, M, 2016; Hoffman & Tan, 2015; Isasi et al., 2016). Other literature reviews integrating many interventions such as reducing appeal and acceptability of tobacco use, increase tobacco use cessation, and prevent initiation of smoking among young people, yet people continued to smoke (Community Preventive Services Task Force, 2014). Despite the interventions by various

authors, states, and federal governments, a significant number of people continue to smoke and use tobacco products. In 2015, an estimated 15.1% (36.5 million) U.S. adults were current cigarette smokers. Of these, 75.7% (27.6 million) smoked every day, and 24.3% (8.9 million) smoked some days (Centers for Disease Control and Prevention, 2017).

In summarizing the breakdown of the evidence, 22 summaries were reviewed. Based on the level of evidence which ranges from level one through seven, nine fell into level one; two summaries fell into level two, two summaries at level three, 0 at level four, two fell at level five, six at level six, and two summaries at level seven. Table 2 depicts the summary of evidence according to Fineout-Overholt & Melnyk (2005). Appendix A provided a summary of the review of the literature related to this project.

Table 2

Summary of Evidence

Level of Evidence	*Research Method*	*Number of Articles Meeting Criteria*
Level 1	Systematic review and meta-analysis if RCTs, clinical guidelines based on systematic reviews or meta-analysis	9
Level 2	One or more randomized controlled trials	2
Level 3	*Controlled trial (no randomization)*	*2*
Level 4	*Case-controlled or cohort study*	*0*
Level 5	*Systematic review of descriptive and Qualitative studies*	*2*

Level 6	*Single descriptive or qualitative study*	*6*
Level 7	*Evidence from expert opinion*	*2*

Adapted from Melnyk, B. M., & Fineout-Overholt, E. (2005). *Evidence-based practice in nursing & healthcare: A guide to best practice*. Philadelphia, PA: Lippincott, Williams & Wilkins.

Local Background and Context

The site for the cessation program was at the medical center. It was a community comprising of lower socioeconomic status where most of the people were smokers. The issue of smoking cessation was addressed due to the high rate of smokers in the medical center. The cessation program's vision was to reduce the rate of smoking among the smoker at the center. This DNP project evaluated the impact of a tobacco cessation program by evaluating pre-and post-cessation program data, and hospital records of participants attending the hospital smoking cessation program over a six-month period to ascertain the degree of reduction in tobacco use and hospitalization from smoking-related diseases.

The role of the DNP Student

I evaluated the existing smoking cessation program following the CDC Framework for Program Evaluation (CDC, 2017). The DNP student took the initiative to obtain the data from the medical center's staff. The data would be useful for the administrators and other health professionals to assist other smoking cessation programs. The scholar analyzed the data which yielded the findings for the smoking cessation

project. A poster presenting the results of the evaluation was submitted to program stakeholders.

Summary

The purpose of this project was to evaluate the impact of a smoking cessation program on participants by evaluating pre-and post-cessation program data, and hospital records of participants attending the hospital smoking cessation program over a 6-month period to ascertain the degree of reduction in tobacco use and hospitalization from smoking-related diseases. This section described the CDC evaluation framework employed in the assessment of this project. This section also presented the scholarly evidence related to smoking cessation programs.

Section 3: Collection and Analysis of Evidence

Introduction

The CDC (2017) identified that 46 million individuals in the United States use tobacco, leading to an increase in the frequency of tobacco use-related diseases, including lung cancer, congestive heart failure, asthma, and peripheral vascular disease. Park et al. (2015) revealed that there was an association between smoking cessation programs, reduction in tobacco use, and the decline in smoking-related hospital readmissions. Smoking was connected to adverse health results such as lung and oral cancer, bronchitis, asthma, and congestive health failure (National Cancer Institute, 2014). The establishment of a smoking cessation program offered a means of evaluating the impact of the program. This DNP project evaluated the impact of a smoking cessation program by evaluating pre-and post-cessation program data, and hospital records of participants attending the hospital smoking cessation program over a 6-month period to ascertain the degree of reduction in tobacco use and hospitalization from smoking-related diseases. Section 3 included a discussion of the methodology, analysis, and synthesis.

Methodology

This DNP project aimed to evaluate the impact of a tobacco cessation program by evaluating pre-and post-cessation program data, and hospital records of participants attending the hospital smoking cessation program over a 6-month period to ascertain the degree of reduction in tobacco use and hospitalization from smoking-related diseases. The facility provided de-identified data on patients that participated in the smoking cessation program from May to November 2016 to compare the pre- and post- tobacco

use and hospitalization from smoking-related diseases. Pre-and post-data on participants' smoking and readmission rates were collected, placed on a Microsoft Excel spreadsheet, and secured in the S-drive. The patients' demographics connected with a coded identifier for confidentiality. They were password protected and stored in a secured area. A letter of participation from the facility explained approval to access and analyze the internal de-identified records (see Appendix C).

Population and Sampling

This DNP project utilized the sample of all participants in the tobacco cessation program from an outpatient medical center, located in the eastern part of the United States. The population sample comprised of both men and women between the ages of 18 years and above. Smoking was one of the inclusion criteria. Participation in this smoking cessation program was optional, hence 49 participants took part in the program.

Data Collection

This project involved retrieving data from patient charts through the Amazing Chart information technology system used at the medical center. Authorization from the Institutional Review Board (IRB) at Walden University and medical center was obtained. My IRB approval number is 06-21-17-0382809. The data was obtained from the medical records reviews, focusing on the pre-and post-test outcomes of the participants to determine the effectiveness of the program. The data also comprised of participant's results about smoking and hospital readmissions before and after taking part in the tobacco cessation program.

Practice Focused Question

This project evaluation aimed to reconcile smoking cessation rate and hospital records of participants who attended the hospital smoking cessation program to determine the degree of reduction in tobacco use and hospitalization from smoking-related diseases. The practice focused question was: Was there a significant difference in the rate of smoking and re-hospitalizations within 30 days before and after participation in a hospital smoking cessation program? It is evident that social and economic factors contributed to increased tobacco use which supported the practice-focused question.

Sources of Evidence

The data were retrieved from the center's Amazing chart information technology system with the assistance of medical records personnel and authorized by the owner and medical director of the medical center. The data consisted of de-identified information about the participants which conformed with the agreement between the medical center and the student. The data comprised of the smoking rate and hospital readmission among smokers.

Analysis and Synthesis

The sets of data, the pre-and post-program smoking cessation and hospital readmission rates of the same participants in the program were obtained and analyzed. The pre-and post-data sets were vital in determining the impact of smoking cessation program on rate of smoking and hospital readmissions. In this DNP smoking cessation project, descriptive statistics and a *T*-test for paired samples was run utilizing version 22.0 of the IBM-SPSS. The tool, *T*-test was used to analyze pre-and post-test data to

determine if there were statistical differences in the data obtained from the participants who took part in the smoking cessation program.

Summary

Section 3 described the methodology used for this project including participants, sampling, method, and data analysis. Sources of evidence and practice focused question were discussed. Method of analysis, descriptive statistics and a *T*-test for paired samples was used to analyze the pre-and post-participants' data.

Section 4: Findings and Recommendations

Introduction

The purpose of this DNP project was to evaluate the impact of a smoking cessation program on participants by evaluating pre-and post-cessation program data, and hospital records of participants attending the hospital smoking cessation program over a 6-month period to ascertain the degree of reduction in tobacco use and hospitalization from smoking-related diseases. Participants (n = 49) completed a hospital smoking cessation program that lasted 6 months. The implications, recommendations, strengths, and limitations of the project were discussed in this section.

The information in Appendix B represents the number of participants (n=49) pre- and post-smoking and hospital readmissions records. In the pretest smoking column, eight participants smoked 16 times daily, while eight others smoked 15 times every day. Five participants smoked 14 times, 11 smoked 13 times, eight smoked 12 times, and four smoked eleven times daily. In the posttest column, three participants smoked 10 times, while two smoked 11 times daily. Three participants smoked nine times, five smoked eight times, seven smoked seven times, 12 smoked six times, 10 smoked five times, and three smoked four times daily. In comparing the smoking pretest and posttest scores, there was evidence that the smoking rate declined which also directly affected hospital readmissions.

In the pretest hospital readmission column, one participant was readmitted five times while 14 participants were readmitted five times. Twenty-five were readmitted four times, and eight were readmitted three times. In the posttest scores, three participants

were not readmitted in the hospital, 23 were readmitted once, 21 readmitted two times, and one readmitted three times. In comparison between the pretest and posttest scores, there was evidence that hospital readmissions among the smokers dropped. The positive result came from the fact that the interventions employed were effective in reducing smoking and hospital readmissions.

Findings and Implications

The examination of the data retrieved from the medical center's archival database on the rate of smoking cessation and hospital readmissions among smokers that participated in the cessation program yielded the following outcomes:

In the smoking cessation data analysis, a paired -sample *t*-test utilizing SPSS IBM Version 22.0 was used. The level of significance was set at 0.05. The mean on pre-test was 13.7 (*sd* = 1.56). The mean on post-test was 6.67 (*sd* = 1.81). There was a statistically significant decrease ($p < .05$) in participants' rates of smoking after completing the smoking cessation program (see Tables 3 and 4).

Table 3

Paired Sample Statistics for Smoking Cessation for Pre-test and Post-test

Test	Mean	*SD*	*Std.* Error Mean
Pre-test	13.7	1.56	.224
Post-test	6.67	1.81	.258

Table 4

Paired Sample Statistics for Hospital admissions for Pre-test and Post-test

Test	Mean	SD	Std. Error
Pre-test	4.18	.727	.104
Post-test	1.41	.643	.091

The data from the participants (*n*=49) who completed the smoking cessation program was also analyzed utilizing the paired-sample *t*-tests for pretest and posttest scores from Table 4. The level of significance was set at 0.05. The mean on pretest was 4.18 (*sd* = .727). The mean on post-test was 1.41 (*sd* = .643). There was a statistically significant decrease in the rate of hospital admissions among smokers who participated in the smoking cessation program for six months ($p < .05$).

Discussion of Findings in the Context of Literature and Framework

There was a significant difference in the mean rates of smoking and hospital readmissions among smokers related to pre-and post-test before and after the program's intervention. These findings were consistent with the literature as well as the conclusions of Cochrane systematic reviews (Cantera et al., 2015; De Andrade & Kinner, 2016; Ford et al., 2013; Ghorai et al., 2014; Minichiello et al., 2015; Rahman et al., 2015), supporting increased smoking cessation and reduction of hospital readmissions among smokers after education on smoking cessation.

The CDC, (2017) framework for program evaluation in public health was utilized as the theoretical framework for the evaluation of the smoking cessation program. As described in Section 2, the six steps of the framework were used to evaluate this project (CDC, 2017). Engaging the stakeholders in evaluation process assisted in providing input about proper evaluation of participants and the efficient methods to access them. Describing the program required developing a clear and brief account of the smoking cessation program. Quantitative statistics were used to evaluate the data. Ensuring and sharing lessons learned involved presenting the finding of the DNP project to stakeholders through a poster presentation format. The results of the smoking cessation program evaluation created a stronger collaborative effort to achieve a reduction in tobacco use and hospital readmissions among smokers. Lessons learned from the evaluation process were utilized efficiently to guide smoking and hospital readmissions among smokers. The educational intervention supported awareness of the need to quit smoking due to its harmful effects. A reduction in tobacco use, in turn, reduced hospital readmissions and set the stage for a better healthy lifestyle among smokers.

Implications for Practice

These evidence-based smoking cessation program interventions supported much of the literature and systematic reviews which helped smokers quit tobacco use. The education and counseling provided by nurses particularly during hospitalization proved success in assisting smokers to quit smoking. The hospital units created a better forum for the nurses to employ their skills and knowledge to provide professional education enhancing quitting tobacco use among smokers. Education on smoking cessation program

translated to all levels of entry to the nursing program. Educating and equipping nurses earlier about caring for smokers solidified their proficiency in smoking cessation interventions.

Implications for Social Change

A significant impact of this DNP project was that the research findings would inform policy and lawmakers to support cessation programs which, in turn, reduced tobacco use and hospital readmissions among smokers. The implementation of more comprehensive evidence-based smoking cessation programs not only can save millions of lives but also save the American economy billions of dollars.

This DNP project would embrace future research on evaluating the impact of smoking cessation program integration into professional and academic training because tobacco use is still on the rise and cessation programs were not entirely supported in various states in the United States of America. The identification of the gap between government policy and smokers at the medical center's program led to quality improvement that served as an integral part of DNP role in enhancing health education and promotion (White & Zaccagnini, 2014). Smoking cessation program results not only promoted reducing smoking and hospital readmissions among smokers in the clinic, but also assisted other smoking cessation programs. Most importantly, a better comprehension of the elements that contributed to individualized success in quitting tobacco use would assist other smoking cessation programs to encourage and guide smokers to abstain from smoking.

Recommendations

The tobacco cessation programs should be a mandatory requirement for most clinics, mainly those medical centers with many smokers. Although few states such as New York and New Jersey do not entirely support several tobacco cessation programs, an adequate amount of money should be spent by these states to fund every state in the U.S. with tobacco control program at CDC-recommended levels. In considering the accuracy of data provided by the participants in the smoking cessation program, it is crucial that the participants are allowed an ample time to recall how many cigarettes smoked last month.

Project Strengths and Limitation

Strengths

The major advantage of this smoking cessation project was providing knowledge to the participants who took part in the cessation program at the medical center. The success of the smoking cessation program interventions was evident through a substantial difference in pre- and post-test scores of tobacco use and hospital readmissions. The results of the smoking cessation program evaluation created a stronger collaborative effort to achieve reductions in smoking and hospital readmissions among smokers. The higher rates of tobacco users were among those with lower socioeconomic status such as Native Americans 21.9% (CDC, 2016). These were the same populations less likely to utilize available health care resources and treatment options which assisted smokers in quitting tobacco use.

Limitations.

The small sample size (n = 49) was a substantial limitation. However, participation in the program was optional. Fifty-three participants were enrolled in the smoking cessation program. Two participants dropped out, and two did not take part in the pre- and post- test.

Another significant limitation of this smoking cessation program involved recall bias. This evidence-based project was a retrospective one, and hence recall bias was inherent. It was apparent that most smokers could not remember precisely the number of cigarettes smoked last month. The uncertainty of the participants report on the rate of smoking might produce an ambiguous result.

Section 5: Dissemination Plan

This section comprised of the DNP dissemination plan evaluating the impact of a smoking cessation program at a clinic at the southeastern part of U.S.A. See Appendix C for a copy of the 35 X 54 poster presented to the clinic and the stakeholders in July 3rd, 2017. The elements of an effective dissemination plan involved poster format. The forum entailed the detailed presentation of materials about the impact of smoking cessation program. The entire project was presented to the stakeholders as stated in section three.

Analysis of Self

Scholar

Critical thinking is an important development of self as a student. It entails a mental process and capability to review actively and competently, analyze, synthesize, and evaluate collected information through observation, experience, and communication that results in a decision for change (Papathanassiou et al., 2014). I acquired great experience in smoking cessation education due to widespread review of literature.

This DNP project provided me with the opportunity to develop the attributes such as the ability to competently analyze, synthesize, and evaluate smoking cessation issues through an in-depth review of literature, theories, policies, and initiatives. The results of the smoking cessation program evaluation created a stronger collaborative effort to achieve the reduction in tobacco use and hospital readmissions among smokers. Lessons learned from the evaluation process utilized efficiently to guide smoking and hospital readmissions amidst smokers. Jones (2016), summarized the role of the DNP graduate as

a leader and a scholar which embraced the accountability to evaluate the impact of smoking cessation program, health promotion and education.

Practitioner.

American Nurses Association (2016) asserted that DNP student as a professional nurse has an ethical obligation to maintain and improve health care practice environments conducive to the provision of quality health care. My practice environment is gerontology nursing. Based on my background in nursing administration and a master's in education, the preparation as a DNP has equipped me with the best understanding of the complex issues of today's health care system and the skills required at all levels of nursing to assume active practice and leadership roles. The knowledge and skills learned in the DNP program have not only proven vital in guiding me in the administration functions but also have directed the DNP in policy formation concerning the smooth operation of the clinical setting.

Project evaluator

The experience gained in the process of evaluating this tobacco cessation program has enhanced my ability to identify an evidence-based project in need of program evaluation. The knowledge comprised of reviewing and synthesizing clinical practice interventions, addressing the tobacco problems and its standardized treatment for tobacco use and dependence, and clinical practice guidelines will enable me to develop other programs.

Summary

The result of this DNP project demonstrated that an intervention such as online web training on tobacco cessation education for smokers might significantly have a great impact in assisting smokers to quit smoking. Evaluating the impact of a smoking cessation program identified the interventions that yielded positive results in decreasing the hospital admissions and increasing smoking cessation among smokers. Since the number of participants (n=49) was not large, additional education programs and data collection methods on smokers was recommended. The emphasis on social change and formation of stakeholders supporting tobacco cessation programs and its objectives was significant for meeting the guidelines of the U.S. Department of Public Health which was to treat every smoker in the clinical setting (U.S. Department of Health & Human Services, 2014)

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Appendix A: Literature Summary with Level of Evidence

Level of Evidence	Research Method	Main Findings	References
1	Systematic review, Peer review, PubMed 2012	Most of the interventions reduced smoking	Wilson, L. M., Tang, E. A., & Chander, G. (2012)
6	Peer review publication conducted an ecological study population	A one percent (1%) variation in state smoking rates change mortality rate of 5.92 deaths per 100,000	Spangler, J. G. (2016)
1	Systematic review, Meta-analyses with or without RCTs 2014, n=10204	Combination of interventions in a smoking cessation program yields more efficient outcome than a single intervention	Cantera. C. M., Puigdomenech, E., Ballve', J. L., Arias, O.L., Clemente, L., Casas, R., Roig, L., Perez-Tortosa. S., Diaz-Gete, L., & Granollers, S. (2015)
7	The National Governors Association Center for Best Practices	During the initial 36 months of program, it assisted in reducing the rate of smoking from 38.3% to 28.3% and hospital read-missions to 46%.	Isasi, R., Murphy, K., Kershner, D. (2016)
1	Systematic review (2014) RCTs n=13094 participants	Numerous mobile phone tobacco cessation interventions proved to be effective in assisting smokers to quit smoking	Ghorai, K., Akter, S., Khatun, F., & Ray, P. (2014)

Level of Evidence	Research Method	Main Findings	References
1	Systematic reviews and Meta-analyses, RCTs n=7,551 participants groups and 4 % in placebo e-cigarette group	the result was a complete abstinence rate of 11% in nicotine e- cigarette	Rahman, M.A., Hann, N., Mnatzaganian, G., & Worrall-Carter, L. (2015)
1	Cochrane and Wiley Online Library, RCTs	There was a continuous reduction in smoking both treatment groups at the 1-month follow-up measure	Golechha, M. (2016)
1	RCTs Cross-sectional survey and pre-post designs	Smoking cessation programs using a complete smoking ban can effectively interject smoking behavior and can increase the likelihood of abstinence	De Andrade, D. & Kinner, S. A. (2016)
1	RCTs n=1037 studies searched through PubMed, CINAHL, Scopus, Web of Science and PsycINFO	Peer-Support programs can build capacity among smokers increasing skills, self-efficacy and providing support for maintaining smoking abstinence	Ford, P., Clifford, A., Gussy, k., & Gartner, C. (2013)
1	Meta-analysis and RCTs n= 48 compared Group n= 19	Smoking cessation program that utilized influences strategies revealed a significantly higher average treatment quit rate compared to the average control quit rate (9.1% vs. 6.2%)	Gabble, R., Babayan, A., DiSante, E., & Schwarta, R. (2015)

Level of Evidence	Research Method	Main Findings	References
5	Systematic Peer Review, Cross-Sectional Population Study selected and 43 electronic sources	Interventions yielded success to produce positive changes in starting, consuming and quitting rates as well as facilitating increase in the number of smoke-free environments, greater knowledge of harmful effects of tobacco	Minichiello, A., Lefkowitz, A. K.F., Firestone, M., Smylie, J. K., & Schwartz, R. (2015)
6	Qualitative descriptive study employed a grounded theory approach, interview n=16 nurses	Patients who receive receive education and counseling would be more likely to refrain from tobacco use (28%) than those who receive only pharmacotherapy (16%)	Li, I.-C., Lee, S. -Y. D., Chen, C. -Y., Jeng, Y.-Q., & Chen, Y. -C. (2014)
6	Analysis of 136,432 records from the outpatient department	The impact of health education provided by physicians, nurse practitioners and nurses were 13.0% and 42.2% respectively	Ritsema, T. S., Bingenheimer, J. B., Scholting, P., & Cawley, J. F. (2014)
2	RCTs and participants were interviewed, n= 1,218	an incentive-based smoking cessation program is an important feature for initial use of tobacco cessation services as well as continued smoking cessation	Parks, M. J., Slater, J. S., Rothman, A. J., & Nelson, C. L. (2016)

Level of Evidence	Research Method	Main Findings	References
6	A two-part study, published online in the Journal of Advanced Nursing 2015, *n*=2,000	The study showed that it is achievable to utilize a long-distance as well as web-based learning education to promote nurse's ability to deliver smoking interventions to smokers	Sarna, L., Aguinaga Bialous, S., Nong Zou, X., Wang, W., Hong, J., Wells, M., Brook, J. (2016)
7	Professional Articles	The recorded several strategies to be used for smoking cession programs	Larzelere, M. M., Williams, D. E. (2012)
6	A 2-group effectiveness study, control (n= 641) and intervention (n=726) groups	Reduction in hospital readmissions 63%, smokers were hospitalized 12 years earlier than non-smokers, likely due to more initial occurrence of smoking, related illnesses	Mullen, K. A., Manuel, D. G., Hawken, S. J., Pipe, A. L., Coyle, D., Hobler, L. A., Younger, J., George, A., Reid, D. (2016)
2	Randomized and Quasi-randomized trials, n=50	Smoking cessation program are effective in increasing cessation rate from 57% to 76%	Rigotti, N. A., Clair, C., Munato, M. R., & Stead, I. F. (2012)
5	Epidemiological studies, subjects were recruited, n=198	The hospital readmission rate per year was decreased among those smokers who quit compared to current smokers (odds ratio 4.5, confidence interval 10.59 – 1.91; $p<0.005$)	Hassan, H. A., Aziz, N. A., Hassan, Y., Hassan, F. (2013)
3	A two-arm randomized controlled trial, n= 330	A cost-effective smoking cessation program intervention could support in reducing population smoking rates and thereby help to reduce tobacco-related issues such as hospital readmissions	Japuntich, S. J., Regan, S., Viana, J., Tymoszczuk, J., Reyen, M., Levy, D. E., Daniel, Singer, D. E., Park, E. E., Chang, Y., & Rigotti, N, A. (2012)

Level of Evidence	Research Method	Main Findings	References
6	Web-based, result reporting application to monitor and assess the effect of the 2009 federal cigarette tax increase	Increase in readiness to quit, from 22% during the first week of February 33% during the first week of April, when the tax when into effect	Tseng, T.-S., Moody-Thomas, S., Horswell, R., Yi, Y., Celestin, M. D., & Jones, K. D. (2014)
1	Randomized and quasi-randomized controlled trial	Strong evidence that some intervention directed towards individual smokers increase the likelihood of quitting smoking	Cahill k, Lancaster T. (2014)
3	Randomized controlled, single-blind trial assessed a novel. *n*= 65	It was feasible to deliver an intervention the online sharing of personal experiences as a tool for smoking cessation	Power, J., Newhouse, N., Martin, A., Jawad, S., Yu, L., Davoudianfar, M., Locock, L., & S Ziebland, S. (2016)

Appendix B: Data on Smoking Cessation and Hospital Readmissions

	Smoking Cessation		Hospital Readmissions	
Participants	Pre-Test	Post-Test	Pre-Test	Post-Test
1	15	10	4	2
2	14	11	5	2
3	16	9	3	1
4	12	8	4	1
5	13	7	6	2
6	16	10	5	2
7	12	8	4	2
8	13	6	5	1
9	15	8	4	1
10	16	11	5	1
11	15	9	4	2
12	16	10	4	1
13	12	8	5	2
14	15	8	4	1
15	16	6	5	2
16	15	8	4	1
17	13	9	5	1
18	11	7	4	1
19	15	6	3	0
20	16	7	5	1
21	14	6	4	2
22	15	5	4	3
23	16	6	4	2
24	12	5	5	1
25	11	4	3	0
26	13	6	4	1
27	14	7	5	2
28	15	6	4	2
29	13	5	3	0
30	12	5	4	1
31	14	6	3	2
32	12	5	4	1
33	11	6	5	1
34	13	6	5	2
35	14	7	4	1
36	15	6	3	1
37	13	5	4	2
38	14	6	5	2
39	13	5	4	1

	Smoking Cessation		Hospital Readmissions	
Participants	Pre-Test	Post-Test	Pre-Test	Post-Test
40	14	6	4	1
41	15	7	3	1
42	12	5	4	2
43	13	4	5	2
44	11	5	4	2
45	12	5	3	1
46	13	4	4	1
47	13	6	5	2
48	15	7	4	1
49	16	5	4	2

Appendix C

Appendix A: Site approval documentation for Quality Improvement Doctoral Project

Partner: Site Medical Center
Date 06/05/2017

The doctoral student, [Gideon Eke], is involved in a Quality Improvement project at our organization, and is therefore approved to access and analyze internal, de-identified site records that I deem appropriate to release for the student's doctoral project. This approval to use our organization's data pertains only to this doctoral project and not to the student's future scholarly projects or research (which would need a separate request for approval).

I understand that, as per DNP program requirements, the student will publish a scholarly report of this QI project in ProQuest as a doctoral capstone (withholding the identity of the site).

The student will be responsible for complying with our organization's internal policies and requirements regarding access and use of site data for QI purposes.

I confirm that I am authorized to approve these activities in this setting.

Appendix D: Poster Presentation

Evaluating the impact of smoking cessation program

Gideon Eke MSN, BSN

INTRODUCTION

Statistics on smoking

80% of adult smokers began using tobacco products before turning 18 years of age.Smoking is responsible for more than 480,000 deaths annually in the United States.More than 41,000 of the deaths from exposure to secondhand smoke.Smoking contributes to 80 percent of lung cancer deaths in women in the United State. Approximately 80% of all deaths from chronic obstructive pulmonary disease (COPD) are caused by smoking 50 percent of all smokers will die from the tobacco-associated illness.Tobacco use causes nearly 6 million deaths per year globally. Current trends suggest that smoking will cause more than 8 million deaths annually by 2030.

PROBLEM STATEMENT

Government policy for health professionals to educate and counsel smokers during sessions leading to quitting tobacco use is inadequate. These problems result in inability for the professionals to provide adequate information to smokers making it difficult for some people to quit smoking.

PURPOSE STATEMENT

This DNP project aims to evaluate the impact of a tobacco cessation program by evaluating pre-and post-cessation program data, and hospital records of participants attending the hospital smoking cessation program over a six-month period to ascertain the degree of reduction in tobacco use and hospitalization from smoking-related diseases. PROJECT QUESTION(S) The practice focused question is: Is there a significant difference in the rate of smoking and re-hospitalizations within 30 days before and after participation in a hospital smoking cessation program?

METHOD

In this DNP smoking cessation project, Quantitative statistics and a T-test for paired samples was run utilizing version 22.0 of the IBM-SPSS statistics package. This method was used to measure the results of the pre-and post-smoking cessation and hospital readmissions data from participants to ascertain the degree of effectiveness of the program interventions. T-test is most appropriate for this project because it involves a comparison between mean outcomes attained from two sections pre-and post-results from the same population on continuous variable.

SIGNIFICANCE TO PRACTICE

All the authors involved in the nurse-led tobacco cessation programs agreed that nurses providing intensive counseling were more beneficial and efficient in reducing tobacco use.

Hospital environment created a forum for nurses to provide smoking cessation education and counseling to patients who were willing to quit tobacco use. Studies demonstrated that it was achievable to utilize a long-distance as well as web-based learning instruction to promote nurse's ability to deliver smoking interventions to smokers.

In the long-term, it is evident that all nurses be proficient in evidence-based smoking cessation approaches.

RESULTS / STATISTICS

There was a statistically significant decrease in the rate of hospital admissions and smoking cessation among smokers who participated in the smoking cessation program for six months

In 2015, 6.5 percent of African-American individuals used tobacco products (9.1% of males and 3.7% of females).

STATISTICS

The National Health Interview Survey (NHIS), (2015), stipulated that adults between the ages of 18 and above, 16.8% of African-American adults in the United States are presently smokers.

Approximately one in six American women presently smokes.

The highest exposed were 71% of African Americans, 63% of low-income individuals, and 61% of children aged 4-11 years (U.S. Department of Health and Human Services, 2014).

CONCLUSION

There was a significant difference in the mean rates of tobacco use and hospital readmissions among smokers related to pre- and post-test before and after the program's intervention and education.

These findings were consistent with the literature as well as the conclusions of the Cochrane systematic reviews supporting increased smoking cessation and reduction of hospital readmissions among smokers after education on smoking cessation.

RECOMMENDATION

The tobacco cessation programs should be a mandatory requirement for most clinics mainly those medical centers with many smokers. Adequate amount of money should be spent by the state governments to fund every state in the U.S. with tobacco control program at CDC-recommended levels. Participants should be allowed an ample time to recall how many cigarettes smoked last month adequately. Choosing and implementing a suitable data collection process is vital in minimizing the potential for recall bias.

REFERENCES

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