2021

A Systematic Review of Tobacco Cessation Strategies Tailored for Military Personnel

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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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2021

Abstract

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MS, Walden University, 2000

Project Submitted in Partial Fulfillment

of the Requirements for the Degree of

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Abstract

Tobacco use remains the leading cause of preventable death worldwide both in civilian and military settings. Despite many attempts by the Department of Defense, to date, there is not a single military base that is truly tobacco-free. The purpose of this doctoral project was to identify the best strategies and effective methods for the general population that may be tailored to deter smoking cessation among military personnel. The practice-focused question asked whether a systematic review of literature could lead to the discovery of the most effective means of tobacco cessation strategies used in general populations that would be feasible in military setting. A systematic review of literature was conducted by utilizing the Preferred Reporting Items for Systematic Reviews and Meta-Analyses flow chart. Reported means were approached utilizing the John Hopkins nursing evidence based-practice model and categorized by the socio-ecological model (SEM) and the transtheoretical model (TTM). Twelve studies were selected for inclusion, which consisted of four cross sectional surveys, six interviews, and two randomized control trials. The most commonly identified strategies based on the SEM were having a strong socio-political support, leadership support especially from the local authority government, and providing tobacco cessation service treatment options including other necessary counseling. In the TTM, the strategies were quit unassisted (72%), using at least one pharmacological method (26%), and using at least one nonpharmacological method (7%). The success in identifying effective strategies of tobacco cessation in the military setting could also translate to the civilian population to affect a positive social change with a reduction in morbidity and mortality.

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Dedication

This project is dedicated to men and women of the United States Armed Forces for both domestic and in a deployment setting all around the world who unselfishly and constantly put their lives in danger to defend our great nation and give freedom to all. This project is especially dedicated to the personnel based in my clinical setting, the Troop Medical Clinic (TMC), and my fellow service members who recently completed their overseas deployment and those who are currently on deployment away from their loved ones and all the inconveniences.

Acknowledgments

Many thanks and appreciation to Dr. Patricia A Schweickert for serving as my program chair throughout this scholarly project and for her unconditional patience and support through my ups and downs to complete this project. I also thank Dr. Anita Rae Williams Manns, Walden DNP Project Committee Member, and Dr. Marilyn Losty, Walden University Research Reviewer. My special thanks also go to Walden DNP Research Coordinator, Dr. Joan Earle Hahn, who has been so kind to help and guide me on my DNP project even during her busiest time. The inspiration for choosing this topic came from my fellow service members, family, and close friends, as well as many of my patients who suffer from nicotine addiction and resulting chronic diseases. I am especially grateful to Major Matthew R. Strunk for being such a good mentor and preceptor overseeing my clinical skills and contributing countless bright ideas that made it possible for me to complete my degree from a geographical distance of over 7,000 miles, during my active-duty overseas deployment. He generously shared all of his meticulous research and insights that supported and expanded my work.

I am grateful to many of my fellow service members who shared their memories and experiences running the tobacco cessation treatment program as well as their knowledge, insight, and criticisms on my project and dissemination plan. I must also acknowledge the many international employees and leadership staff members for being so flexible and helpful during my clinical practicum, even in the most chaotic of days. My thanks must go also to my student advisor, Brigette Malchow, for her research assistance and patience regarding project barriers and my weekly progress.

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Section 1: Nature of the Project

Introduction

Tobacco use continues to be a major problem among young adults and adults worldwide. Healthy People 2020 (2019) states that tobacco use is the leading preventable cause of death and disease in the United States (U.S.). The latest Centers for Disease Control and Prevention (CDC) report states that more than 16 million Americans are living with a disease caused by smoking, with more than 480,000 deaths per year in the U.S. This includes more than 41,000 deaths resulting from secondhand smoke exposure (CDC, 2019). Also, they report on average a smoker dies 10 years earlier than fellow nonsmokers (CDC, 2019). Considering these statistics, tobacco cessation must be considered a top health concern worldwide.

Tobacco use including smoking or smokeless tobacco is an enormous problem for both the civilian and military populations, where tobacco use degrades troop medical readiness (Bary-Weisberg et al., 2019; Poston et al., 2017; Smith et al., 2016). Thus, tobacco cessation is one of the top priorities in my clinical practicum setting. Locally, our commander has mandated tobacco cessation as one of the top priorities in the care of our soldiers. Therefore, this project aimed to identify successful tobacco cessation strategies in general populations that can be feasible for deterring tobacco use for military personnel.

Tobacco use among military personnel has long been known to degrade the fighting force, community, and family (Skojac & Ackerman, 2014). Additionally, tobacco use directly impacts the readiness of soldiers (Bary-Weisberg et al., 2019; Poston

et al., 2017; Smith et al., 2016). Thus, this project was aligned with and supports the Walden University mission for social change by evaluating the evidence related to deterring tobacco usage for service members. This project might also lead to the prevention of second-hand tobacco exposure, thereby promoting social change. Tobacco use does not only cause health and financial burdens for the person who smokes, but also for their family and community at large.

Problem Statement

The U.S. military has a higher prevalence of tobacco use compared to the general population (24% versus 21.2%); thus, tobacco cessation should be a priority for military personnel (Ulanday et al., 2017). Easy access to low-priced cigarettes is believed to be one of the chief reasons for increased use of tobacco products in the U.S. military and Veteran Affairs Healthcare Systems (Truth Initiative, 2018). It was reported the Department of Defense (DoD) spends an average of 1.6 billion dollars annually on tobacco-related illness and lost workdays (Bary-Weisberg et al., 2019; Poston et al., 2017). This figure demonstrates what a true economic burden this preventable condition incurs. Tobacco use not only reduces soldiers' physical fitness and endurance but also is linked to higher rates of absenteeism and lost work productivity (Bary-Weisberg et al., 2019; Poston et al., 2017). It was also reported that service members who smoke tend to prematurely drop out of basic training due to injuries and poor vision (Poston et al., 2017).

The DoD has not been successful in implementing a policy to address increased

tobacco use due in part due to a lack of knowledge of successful practice strategies (Ulanday et al., 2017). Therefore, the gap in practice that this project focused on was the lack of knowledge of best practice strategies to deter tobacco usage in military personnel. Tobacco use represented a suitable area for this project because smoking is a preventable health concern (U.S. Department of Health and Human Services, 2014).

A recent DoD report stated that 38% of current smokers in the military began smoking after joining. Among junior enlisted personnel, about 30% reported current cigarette smoking after joining the military (Carter, 2016; Truth Initiative, 2018). Additionally, studies found that cigarette smoking is more common among men and those with lower education levels (Truth Initiative, 2018). Therefore, addressing increased tobacco use by military personnel might serve to affect policy and offer strategies to decrease smoking rates.

The high rate of tobacco use among soldiers increases the risk of developing chronic obstructive pulmonary disease (COPD), emphysema, lung cancer, chronic bronchitis, asthma, community-acquired pneumonia, upper respiratory infection, gum disease, vision problems, and tuberculosis (CDC, 2018). This can affect the command's ability to deploy soldiers and maintain soldier physical fitness as well as medical readiness. Consequently, tobacco use harms soldiers' combat readiness. Unfortunately, the problem of tobacco use has a wide scope; the harmful effects of tobacco use do not end with the user alone. Second-hand smoke exposure is responsible for 2.5 million deaths since 1964 (Healthy People 2020, 2019) and 1.2 million annually (World Health Organization [WHO], 2019). A soldier who smokes not only impairs their medical

readiness but also is detrimental to their fellow service members. Tobacco cessation is critical to our troop medical readiness and fighting strength.

Tobacco use is a worldwide problem both in civilian and military populations. People choose to smoke for a variety of reasons such as anxiety, depression, high-stress level, boredom, and pressure among others (Chen et al., 2016; U.S. Food and Drug Administration [FDA], 2020). By identifying strategies to help service members manage their triggers, the DoD could deter tobacco use and its many adverse effects. Additionally, successful tobacco cessation practice strategies could be offered to the general population as well.

Purpose Statement

The gap in practice this project focused on is the lack of knowledge of best practice strategies to deter tobacco use among military personnel. The focal point of this project was to gather evidence of effective tobacco cessation strategies to combat the higher rates of tobacco use among military personnel. These tobacco cessation strategies could benefit the DoD in combating tobacco use among service members. A systematic review of the literature helped identify effective treatment strategies for tobacco cessation among service members. Ideal strategies might include individual military personnel participants in tobacco cessation programs. These programs would include behavioral or motivational counseling on tobacco cessation, management of stress, anxiety, and depression as well as follow-up with a medical provider as needed for their tobacco cessation medications and evaluation.

The practice-focused question asked whether a systematic review of literature could lead to the discovery of the most effective means of tobacco cessation strategies used in general populations that would be feasible to stop the high smoking prevalence among military personnel. This doctoral project provided evidence regarding strategies concerning tobacco cessation for the DoD while enabling them to take action to combat tobacco use. For example, two community health nurses could man a station in the welcome center where newly arriving soldiers are in-processing. They could discuss tobacco cessation options and set up appointments with primary care providers for medication options and nicotine replacement therapy. Secondly, the DoD could establish an electronic medical record to maintain continuity of care with soldiers that may move throughout a military theater. This can range from as little as a few miles or even to different countries. Thirdly, the DoD could maintain medical supplies during military exercises, foreign or domestic, by mandating stock levels at regional centers of treatment-related medications and nicotine replacement products. Lastly, the DoD could initiate new innovative treatments for tobacco cessation. Tobacco cessation could, therefore, be a top priority to achieve optimal health for all service members.

Nature of the Doctoral Project

I performed a systematic literature review to analyze the evidence collected to answer the project question. This review of the literature aimed at thoroughly examining the existing scholarly literature obtained from computerized databases including Google Scholar and Pub-Med. Scholarly research literature included in the analysis was

published between 2015 and 2020. The DNP chair and committee members also served to provide guidance and as second reviewers throughout this DNP scholarly project.

A systematic review of the literature was conducted to evaluate best practice strategies in both the general population and the military setting to deter tobacco use among military personnel. This systematic review of the literature used Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) flow chart, which entailed a description of the selection process and determination for evidence would be included in the analysis (Liberati et al., 2009). The method used to perform the systematic review was the John Hopkins nursing evidence based-practice (JHNEBP) model, which is a three-step of evidence-based practice (Dearholt & Dang, 2017). Lastly, the chair and doctoral committee served as the second reviewer throughout this project.

The purpose of this doctoral project was to identify the best strategies and effective methods for the general population that may be tailored to deter smoking cessation among military personnel. This included providing education on the physical, mental, and financial risks of tobacco use. Additional strategies included online tobacco cessation treatment options in the military theater along with utilizing behavioral or motivational counseling to help manage stress, anxiety, and depression. A routine follow-up visit should be scheduled with a medical provider to support patients' efforts. By providing soldiers with proper education on the risks of tobacco use, treatment options, and follow-up care, the DoD could help motivate soldiers to quit successfully.

Significance

There are several stakeholders potentially affected by the high rate of tobacco use in military service members. First, the military command would benefit from the effective tobacco cessation program since soldiers' medical readiness would no longer be compromised due to decreased physical performance secondary to illnesses and incapacitation associated with tobacco use (Poston et al., 2017). Second, decreasing the exposure of non-smokers to second-hand smoke would improve their quality of life associated with tobacco-related illness and comorbidities. The tobacco cessation program would also decrease lost productivity related to tobacco use. Lastly, by identifying the best strategies to stop tobacco use in the military, medical providers would have effective means to treat tobacco use to prevent comorbidities and inpatient admissions from tobacco-related complications. Thus, I urge stakeholders to consider how they might be potentially impacted by addressing the high rate of tobacco use.

The success of finding strategies for tobacco cessation in the military setting could also translate to the civilian population. This would help nurses implement preventive medicine around the world to help tobacco users quit. This improvement in nursing practice might lead to an overall healthier population. It might also result in a better quality of life for tobacco users and people around them as well as reduce the financial costs of tobacco products.

New and innovative treatment strategies in tobacco cessation could potentially be applied to larger-scale civilian populations worldwide. Similar practice areas include construction, food service, transportation, waste management, and manufacturing

workers (Syamlal et al., 2017). Having effective strategies to prevent and reduce tobacco product use, including the current use of multiple tobacco and nicotine products of any kind among working adults, is extremely important for the success of a tobacco cessation program. Studies showed that workplace tobacco-control interventions in similar practice settings had been especially effective in reducing cigarette smoking prevalence (Syamlal et al., 2017).

Healthy People 2020 (2019) reported a decrease in smoking improves the overall population's health, with potential implications for positive social change. Currently, over 16 million Americans are living with smoking-related diseases. Tobacco cessation could lead to a decrease in medical clinic visits related to lung disease, cancer, COPD, heart disease, stroke, and diabetes in addition to certain eye disorders and autoimmune diseases such as rheumatoid arthritis (CDC, 2018; FAD, 2020). This could not only improve the health of the military community but also the community across the globe.

Summary

Tobacco use remains the premiere preventable health threat to the population today. An estimated eight million deaths occur annually worldwide due to tobacco use. Recent reports state that seven million deaths are due primarily to tobacco use, while approximately 1.2 million are due to second-hand smoke exposure (WHO, 2019). Unfortunately, tobacco use remains high among military personnel (Bary-Weisberg et al., 2019). It directly affects physical endurance, overall health, and ultimately medical readiness of our fighting force (Bary-Weisberg et al., 2019; Poston et al., 2017). Sadly, in 2006, DoD spent $564 million in health services related to tobacco use (Ulanday et al.,

2017). Annually, the DoD spends more than $1.6 billion on tobacco-related medical treatment and lost workdays (Poston et al., 2017). This cost is substantial to our government spending and resources, and it is costly for all taxpayers. The DoD lacks effective tobacco cessation strategies that lead to increased tobacco use (FAD, 2020; Ulanday et al., 2017). Further exploration of the background and context of the practice problem was warranted to identify the most effective strategies to discourage and stop tobacco use among active-duty military personnel.

Section 2: Background and Context

Introduction

Tobacco use has long been a part of military culture. Tobacco use not only decreases physical fitness and endurance but also affects troop medical readiness and overall fighting strength (Bary-Weisberg et al., 2019; Truth Initiative, 2018;). Annually, the DoD continues to spend an estimated 1.6 billion dollars on tobacco-related illness and lost workdays (Poston et al., 2017). Besides, service members who smoke tend to compromise troop readiness because they are much more likely to drop out of basic training, sustain injuries, and have poor vision (Poston et al., 2017).

The practice-focused question asked whether a systematic review of literature could lead to the discovery of the most effective means of tobacco cessation strategies used in general populations that would be feasible to stop the high smoking prevalence among military personnel. The gap in practice this project focused on was the lack of knowledge of best practice strategies for tobacco cessation in military personnel. The DoD has to date not been able to identify effective means to stop tobacco use. Thus, the purpose of this doctoral project was to identify the best strategies in identifying effective methods to stop tobacco use among service members.

Section 2 includes an overview of the background and context of the practice-focused problem, concepts, models, and theories as well as their key theorists. It also discusses terms with multiple meanings, relevance to the nursing practice, current nursing practice in this area, previous strategies and standard practices used to address this gap in practice, local background, context, and my role in the project.

Concepts, Models, and Theories

Tobacco use has long been a part of the military tradition. Reducing the burden of tobacco-related illness and missing workdays requires an effective comprehensive tobacco cessation system with multi-level interventions (policies and programs) that address individual, environmental, institutional, and social systems (Minian, 2008). The socio-ecological model (SEM) and the transtheoretical model (TTM) are the two most appropriate theoretical nursing models to understand the high rate of tobacco use in the military and possible cessation treatment protocols.

The SEM was originally considered as a model for understanding human development by Urie Bronfenbrenner in the early 1970s. In the late 1980s, it became a formal theory (Kilanowski, 2017). Initially, the SEM was used to guide formative research since it relates to the reciprocal interaction of behavior and the environment (Newes-Adeyi et al., 2000). Applying this model can direct appropriate multilevel change in the population and culture, not only at the individual level but also at the societal/cultural level. Therefore, the application of this model in the military setting could also benefit and enhance the successful implementation of a tobacco cessation program for military personnel.

The SEM was developed to understand the dynamic interrelation among various personal and environmental factors. Newes-Adeyi et al. (2000) explained these models' five core concepts that describe its influence in a participant's behavior: individual, interpersonal, organizational, community, and policy. This worked well considering the high rate of tobacco use among active-duty personnel due to the influence of behavior

and environment. This approach could explain the military social problem that had to do with influences on behavior and interventions to change the behavior. Both transcended beyond individual change alone and incorporated the strong influences from interpersonal, organizational, and policy levels of change associated with tobacco use in the military.

The TTM was originated by a couple of clinical psychologists named James Prochaska and Carlo DiClemente around the late 1970s (Prochaska & DiClemente, 1984, 1986). The TTM of behavior change is an integrative theory of therapy that is employed to assess an individual's readiness to act on a new healthier behavior. This therapy also includes providing strategies for changes to guide the individual (Prochaska & DiClemente, 1984).

The TTM, or what is also sometimes called the "stages of change model," works well for a smoking cessation program because service members will transition through several stages before they finally decide to quit. These stages include precontemplation (no current plans of quitting), contemplation (now planning to quit), preparation (actively planning to quit within the next month), action (has quit in the last 6 months), maintenance (has quit for more than 6 months), and lastly termination (has quit and has no desire to return to their unhealthy behaviors; Sharma et al., 2017). For each of the stages of change, a variety of interventional strategies can be very effective at motivating the person to the next stage of change. The ultimate goal of the participant is to reach the maintenance stage, otherwise known as the ideal stage of behavior (Behavioral Change Models, 2019). The TTM fits nicely with the research topic of smoking cessation because

this theory focuses on abstinence or “an all or nothing approach” that incorporates different strategies to motivate participants along the different stages of change. These fits well with many of the tobacco cessation treatment plans in the military setting.

The TTM has evolved through multiple studies directed toward personal experiences of smokers who quit on their own versus those requiring further treatment. This explains why some people are capable of quitting on their own while others are not (LaMorte, 2019). In the end, it was determined that people quit smoking when and if they are ready to do so with or without medical assistance. The TTM is focused on the decision-making of the individual as well as a model of intentional change. The TTM operates under the concept that people do not simply change behaviors quickly or decisively. Rather, behavior change, especially habitual behavior, occurs continuously through a more cyclical type of process (Prochaska & DiClemente, 1986; Prochaska et al., 1992). The TTM is not just a theory but a model; various behavioral theories can be applied to different points of the model where they will be most effective.

There were a few terms that could have multiple meanings in this doctoral project: *army reservist, enlisted soldiers, officers, armed forces, military personnel, active duty,* and *service members*. All these terms relate to the U.S. military and armed forces responsible for securing and defending the U.S. (DoD, 2020). The Army, Navy, Marines, Air Force, and National Guard are examples of the various branches in the U.S. military.

Relevance to Nursing Practice

Tobacco use is the leading cause of preventable death worldwide (Healthy People 2020, 2019; WHO, 2018). WHO estimates that tobacco use worldwide is responsible for

more than eight million deaths annually, with seven million of those deaths resulting from direct tobacco use. Approximately 1.2 million deaths are related to second-hand smoke (WHO, 2019). A recent report from the 2020 Surgeon General's Report Overview included the latest scientific evidence on the health benefits of smoking cessation (U.S. Department of Health and Human Services. (2020). It stated that smoking cessation is beneficial at any age, and it improves health status and enhances quality of life. The report also mentioned cessation reduces the risk of premature death and can add as much as a decade to life expectancy. Another benefit of cessation is that it reduces the substantial financial burden on smokers, healthcare systems, and society. Additionally, the report stresses that cessation reduces the risk for many adverse health effects, including reproductive health outcomes, cardiovascular diseases, COPD, and cancer (2020 Surgeon General's Report Findings, 2020). Thus, smoking cessation is in line with the WHO's objectives to improve and set standards in the field of health and strengthen their health initiatives as well as develop methods to combat disease. More importantly, smoking cessation will meet Health People 2030's objectives to attain healthy, thriving lives and well-being, free of preventable disease, disability, injury, and premature death, and to create social, physical, and economic environments that promote attaining full potential health and well-being for all as well as to promote healthy development, healthy behaviors, and well-being across all life stages (Healthy People 2030, 2020).

Tobacco use continues to be one of the military's evolving problems that needs to be solved. Tobacco use not only affects a soldier's physical fitness and endurance, but it also affects overall troop medical readiness, resulting in a decrease in the armed forces

fighting strength (Poston et al., 2017). It was reported the DoD spent $564 million on health-related services in 2006 (Ulanday et al., 2017). Annually, the DOD continues to spend more than $1.6 billion on tobacco-related medical treatment and lost workdays (Poston et al., 2017). Besides, service members who use tobacco products tend to compromise troop readiness because they are more likely to drop out of basic training, sustain injuries, and have poor vision (Poston et al., 2017; Truth Initiative, 2018). In 2015, DoD spent over $175 million in excess training costs because tobacco users tend to be prematurely discharged (Poston et al., 2017).

Although it is discouraged, tobacco use in the military is legal in any military installation or base (Truth Initiative, 2018). For example, the current nursing practice on tobacco cessation at my clinical setting is operated by two community health nurses who work in collaboration with the TMC medical providers (Wade, 2017). The program offers three different types of medications including nicotine patches, nicotine gum, and Zyban, also known as Wellbutrin.

In my clinical setting, the smoking cessation program is broadly endorsed for all service members together with government and civilian contractors. On March 24, 2017, the community health nurse of the clinic held a smoking cessation event that was attended and supported by the U.S. armed forces as well as some contractors (Wade, 2018). The mission of this program was to provide participants access to care, which would give them the tools necessary to live healthier lives free of tobacco products (Wade, 2018).

At that time, the nursing practice of the tobacco cessation program at the TMC was facilitated through individual counseling sessions, group education, and pharmaceutical therapy (Wade, 2018). One of the military preventive medicine physicians at the project site asserted the importance of behavioral counseling to support quit attempts. Moreover, research demonstrated that people were more successful with tobacco cessation using a combination approach of behavior modification, tobacco education classes, and pharmacotherapy (Wade, 2018). Major Hesse believed that group therapy helped participants address myths that were barriers to quitting tobacco (Wade, 2018). Subject matter experts came in weekly to educate participants on topics such as healthy nutritious substitutes that could help during nicotine cravings. Sugar-free gelatin dessert mixed with fruit or plain yogurt sweetened with fresh fruit could satisfy sugar cravings (Dlugos, 2018).

Military personnel face unique challenges in their battle against tobacco use, including prolonged deployments, cultural pressures, and access to cheap tobacco products (Wade, 2018; FDA, 2020). Reducing tobacco use in the military is critical to protecting the overall health of the men and women who fight for the country and protect our freedom. A few areas that could be improved upon include the screening stage to have tobacco cessation stations operated by the community health nurses where service members process into military bases. Additionally, more comprehensive screening that could detect not only the use of tobacco but which method of tobacco use would be very beneficial. These included cigars, smokeless tobacco, and electronic cigarettes, otherwise known as vaping. All of these forms of nicotine have adverse health effects, lead to poor

medical readiness, and decrease the fighting strength of our armed forces. Lastly, the military should maximize tobacco cessation treatments by approving all tobacco cessation medications as well as the three levels of counseling (individual, group, and phone; Truth Initiative, 2018). This would reduce the stress of coming into the clinic to meet face to face with a healthcare provider or any missed appointments due to work schedule conflicts.

Despite multiple attempts by all of the various branches of the military to initiate tobacco-free policies, none are truly tobacco-free (Truth Initiative, 2018). On August 22, 2003, the DoD reinstated their tobacco control policy (outlined in health promotion policy directive 1010.10 and directive 1010.15), which prohibited smoking indoors. However, this policy has many exceptions to the rule (DoD Directives, 2003). For example, any indoor designated smoking areas that are sustained, under negative air pressure, and exhausted directly to the outside that adequately contain tobacco smoke are considered exempt. This is despite a report by the surgeon general in 2006 that concluded ventilation measures do not eliminate secondhand smoke exposure in indoor spaces (DoD Directives, 2003).

Defense Secretary Ash Carter in April 2016 granted movements to assist service members to prevent starting tobacco, aid soldiers quit using tobacco, and minimize secondhand smoke exposure (Carter, 2016). Furthermore, he ordered that all DoD installations and bases limit tobacco use to only smoking in designated outdoor areas. Also, Carter (2016) instructed that all military branches were engaged to improve tobacco education for workers, enhance tobacco cessation programs, implement methods to instill

smoke-free military housing, and mandate tobacco-free zones in areas frequently occupied by children.

Another attempt by the military branches at this time was instituted by the Navy. In April 2017, after incidents of multiple explosions caused by the overheated batteries on their fleets, the Navy prohibited the storage and charging of e-cigarettes throughout its fleet (Larter, 2017). This resulted in the Navy banning electronic cigarettes and vaping devices throughout the fleet to include ships, submarines, aircraft, boats, and heavy equipment. This restriction applies to every person who stays, works, or visits their bases, including civilian contractors. Sadly, between October 2015 and April 2017, there were 31 incidents reported involving overheating e-cigarette batteries in sailors' pockets leading to explosions and resulting in first and second-degree burns to themselves and those around them. At least two sailors have had their e-cigarettes blow up in their mouths, resulting in facial and dental injuries. An additional two incidents required the use of shipboard firefighting equipment to extinguish the resulting fires (Larter, 2017). These incidents emphasize how serious the health effects of e-cigarettes can be for everyone.

This Doctoral Nursing Practice project was aimed to identify effective strategies to stop tobacco use among military personnel. This could create positive social change based on the potential benefit to military personnel's physical health, endurance, medical readiness, and overall troop fighting strength (Poston et al., 2017; Ulanday, 2017). Tobacco use among service members has long been known to negatively impact service members' overall health and medical readiness (Poston et al., 2017). Therefore, exploring

effective strategies to stop tobacco use among service members could allow DoD leadership to take action to stop the high rate of tobacco use by applying effective strategies.

Local Background and Context

Tobacco use is truthfully a pandemic among military personnel, especially in combat zone deployment settings where anxiety and stress levels always run high (Skojac & Ackerman, 2017). For what it appears to be, tobacco use among military personnel in the deployment setting, seems to be the norm. Tobacco use continues to negatively impact service members' health, medical readiness, and decrease productivity that eventually leads to deceased overall troop fighting force. For these reasons, the military leadership reinforces tobacco cessation for all of those who use tobacco and nicotine products of any kind.

From summer to fall 2012, 402 male and female service members of various ethnicities between the ages of 19 to 55 years-old stationed in the Middle East (383 enlisted and 19 officers) were randomly surveyed regarding their tobacco usage habits (cigarette smoking and smokeless tobacco). Active-duty Army, National Guard, and Army Reserve members were among those who were randomly surveyed (DiNicola et al., 2014).

It was reported that tobacco use prevalence among active-duty service members stationed in the Middle East nation was approximate twice the U.S. national average (DiNicola et al., 2014). Of the 402 military members surveyed, 41% (164/402) used tobacco products during their Middle East deployment. Among the tobacco product

users, 87% (142/164) were male and 13% (22/164) were female. The mean age of the tobacco users was age 30. Also, of the 238 nontobacco product users, 73% (173/238) were male and 27% (65/238) were female. The mean age of the nontobacco product users was 34. Thus, a higher percentage of males, as opposed to females, used tobacco products (DiNicola et al., 2014). In prior research among Millennium Cohort Study (MCS) participants, military deployment was associated with 2.3% smoking initiation among soldiers that never previously smoked versus 1.3% in non-deployed soldiers. Smoking relapse among deployed service members occurred in 39.4% versus 28.7% smoking resumption in non-deployed service members (Smith et al., 2008). Additionally, of the 164 military members using tobacco products, 9% (14/164) did not use tobacco products before deployment. During the deployment, 21% (35/164) of tobacco users increased the amount of tobacco product usage and only 6% (10/164) decreased the amount of tobacco usage (DiNicola (et al., 2014). These statistics demonstrate how active-duty military status could affect service members' smoking initiation as well as increase tobacco use among current smokers.

This DNP project was directed toward male and female military personnel ranged from 17 to 60 years of age. These soldiers typically lived in military barracks on a military installation. U.S. Army military installations were governed by the Uniform Code Military Justice (UCMJ). Service members were governed by a U.S. military base commander, generally ranked colonel or above. The mission was to support Operation Enduring Freedom Spartan Shield. The strategic goal was to identify the most effective

methods for tobacco cessation among military personnel to improve overall medical readiness.

Military lingo was used for this doctoral project. Soldiers referred to the U.S. military and the armed forces responsible for securing and defending the country (DoD, 2020). Enlisted (E) soldiers included E1 to E4 ranked soldiers and Non-Commission Officers (NCO) ranked E5 to E9. Warrant Officers included W1-W5 ranked soldiers. Commission Officers included the second lieutenant to general ranked soldiers. Government contractors included non-military service members who worked inside the military base or installation to support the military operation.

The active-duty military personnel stationed in the Middle East fell under the primary responsibility of Central Command (CENTCOM). As far as military service members were concerned, governance was conducted by the U.S. Military base commander, typically ranked colonel or above.

Role of the DNP Student

I was a Captain grade O3 in the U.S. Army Reserve. I was called to active duty to the Middle East as of March 21, 2019. My military occupational specialty (MOS) was 66P for Family Nurse Practitioner. I worked as one of the providers in one of the local TMC, which was run by Area Support Group. I was also a Doctorate of Nursing Practice student at Walden University conducting a systematic review of the literature on tobacco cessation programs that identify effective strategies to stop the high rate of tobacco use among military personnel. I also served as chair of the infection disease committee from May 27 to May 30, 2019. I was responsible for cosigning all community health nursing'

notes relating to preventable diseases including tobacco cessation services. I was also an active member of Pharmacy Therapeutic Antimicrobial Stewardship (PTAS) and responsible for monitoring medication effectiveness and safety standards being utilized in our hospital and the TMC. As the main supporter of the tobacco cessation program in our TMC, I interviewed service members who used tobacco, ordered their medications, and referred them to necessary motivational counseling to help them during this challenging time. I also conducted routine follow-up visits for tobacco cessation patients who were enrolled in the tobacco cessation treatment program. Finally, I gained valuable practicum experience in the treatment and evaluation of patients with tobacco use related disorders.

I was born and raised in a small farming town in South East Asia. A place where it is safe to say almost every male from teenager up is a smoker. I have an eight-year-old nephew who was born asthmatic and frequently has episodes of upper respiratory infections that cause him to have severe wheezing and shortness of breath. His father, who is my younger brother, is a heavy smoker and has no conscience about where he smokes; he often causes an exacerbation of his son's asthma. Also, my family endures a significant financial burden because of his smoking habit. These costs not only include the high price of cigarettes themselves, but also medical expenses associated with tobacco use-related health issues. For these reasons, witnessing soldiers using tobacco and the resultant missed days of work or missed military duty due to tobacco-related illnesses as well as failing the cardiovascular portions of their Army Physical Fitness Test (APFT) are inexcusable. Consequently, a tobacco-free campaign and tobacco cessation

program among military personnel is critical for troop medical readiness and overall troop fighting strength.

Personal illness, the death of a very close family friend, and the financial burden that I and my entire family have endured lead to potential bias. Tobacco use has not only created a financial burden but has also taken an enormous emotional toll on my family and loved ones due to the chronic illnesses and suffering tobacco has caused. These negative experiences may cause potential bias on my part. However, I have learned how to better myself about this sensitive issue. The first step in addressing this problem is to be aware of my own bias to remain objective. By examining my own bias, I can remain objective and look at things differently from the service member's perspective. Open-mindedness is another important step. For me to be unbiased, I need to be open-minded to understand a tobacco user's point of view and what lead them to smoke in the first place. These will help me to be more objective, less biased, and judgmental.

Summary

Smoking has long been known as a part of the military culture; thus, the rate of tobacco use tends to be higher among military personnel compared to the civilian population (Ulanday et al., 2017). Tobacco use also has been known to degrade the military family and community. Tobacco use not only impacts the readiness of soldiers but also decreases overall troop fighting strength (Bary-Weisberg et al., 2019; Poston et al., 2017). Annually, the DoD spends on average 1.6 billion yearly on tobacco-related medical treatment including lost workdays (Poston et al., 2017). Consequently, reducing the burden of tobacco-related illness and missed workdays requires a comprehensive

smoking cessation system with multi-level interventions (policies and programs) that address individual, environmental, institutional, and social systems (Minian, 2008). Therefore, the SEM and the TTM frameworks would fit well into the tobacco cessation program for military personnel considering how individuals and the environment play a significant role in the high rate of tobacco use among service members. Additionally, each of the above healthcare models also would guide the service members through the process and stages of smoking cessation personally and socially.

Given the prevalence of tobacco usage, a better understanding of tobacco habits among deployed military personnel would help in determining the importance and prospective benefits of implementing an effective anti-tobacco use campaign. This would ultimately improve physical endurance and reduce the risk of hypertension, cardiovascular disease, stroke, emphysema, and cancer associated with tobacco use. Further discussion on the collection and analysis of the evidence on this systematic review of the literature on tobacco use among military personnel would be discussed in the next section.

Section 3: Collection and Analysis of Evidence

Introduction

The U.S. military has a long history of a pro-tobacco culture, with a much higher tobacco prevalence of 24% in comparison to the general population with 21.2% (Ulanday et al., 2017). Tobacco use not only reduces soldiers' physical fitness and endurance but also is linked to higher rates of absenteeism and lost work productivity (Bary-Weisberg et al., 2019; FDA, 2020; Poston et al., 2017). The DoD continues to spend on average about 1.6 billion dollars annually on tobacco-related illness and lost workdays in addition to the 175 million dollars in training due to early medical discharge (Poston et al., 2017). Service members who smoke tend to compromise troop readiness because they are much more likely to drop out of basic training, sustain injuries, and have poor vision (Poston et al., 2017). Ultimately, this excess medical spending and training not only is costly to the DoD but also becomes a burden to the taxpayers.

The DoD has to date not been able to identify effective methods to stop tobacco use to optimize soldiers' health and medical readiness **(**Bary-Weisberg et al., 2019; Poston et al., 2017; Truth Initiative, 2018; Ulanday et al., 2017). Thus, the purpose of this doctoral project was to identify the best strategies to deter tobacco use among service members. This program would include education services to high-risk personnel for the physical, mental, and financial risks of tobacco use.

This DNP project was directed toward male and female active-duty military personnel from 17 to 60 years of age. These soldiers' living quarters are usually large open barracks on military installations. U.S. Army military bases are governed by the

UCMJ. Service members are governed by a U.S. military base commander, who is generally a colonel or higher level of command. The mission of this project was to support Operation Enduring Freedom Spartan Shield. The strategic goal was to identify the most effective methods for tobacco cessation for military personnel to improve overall medical readiness.

Section 3 of this doctoral project mainly focuses on the steps for gathering evidence to answer the practice-focused question. These include the kind of studies or literature selected, year of publication, databases, search engines, and key terms used to search for the most sensitive and time-specific literature needed. I also discuss how this literature or evidence was organized, tracked, and stored. This section also includes operation terms or key terms used in this project as well as steps in completing this project such as obtaining approval from Institutional Review Board (IRB) to ensure compliance with Walden University's ethical standard, federal regulation on human rights protection. Other discussions in this section include how to address missing information or values and outliers to maintain the study's credibility.

Tobacco use is truly an ongoing problem among military personnel. A survey conducted from summer to fall 2012 reported that tobacco use prevalence among active-duty military personnel stationed in the Middle East was approximate twice the U.S. national average (DiNicola et al., 2014). Of the 402 male and female military members surveyed, 41% (164/402) used tobacco products during the Middle East deployment. Additionally, of the 164 military members using tobacco products, 9% (14/164) did not use tobacco products before deployment. Twenty-one percent (35/164) of tobacco users

further increased their amount of tobacco use during deployment. Only 6% (10/164) decreased their amount of tobacco use (DiNicola et al., 2014). These statistics reflect how active-duty military status and deployment could affect service members' tobacco use initiation or rate.

Practice-Focused Question

The project question asked whether a systematic review of the literature could identify best cessation strategies in both the general population and military setting to stop the high prevalence of tobacco usage among military personnel. Thus, the purpose of this doctoral project was to identify the best strategies both in the general population and military setting to deter the high prevalence of tobacco usage among military personnel. This in turn could allow DoD leadership to take action and stop the high rate of tobacco use by applying those specific strategies and ultimately improve overall medical readiness and increase troop fighting strength.

There were a few operational terms that were key aspects of this doctoral project. The troop was defined as a group of soldiers, a unit of cavalry, armored vehicles, or artillery in the U.S. military (Free Dictionary, 2020). The term *USCENTCOM* or *CENTCOM* referred to The United States Central Command, which was one of the 11 unified combatant commands of the U.S. DoD. It was responsible for protecting American security interests from the Horn of Africa to Central Asia. USCENTCOM or CENTCOM was established in 1983, taking over the previous responsibilities of the Rapid Deployment Joint Task Force (Encyclopedia Britannica, 2020). UCMJ was the legal military law that governs all members of the U.S. military. UCMJ covered various

issues from apprehension to confinement of military personnel to regulations covering the court of military appeals (Military Benefits, 2020).

Sources of Evidence

To answer the project question, I conducted a systematic literature review with data review and analysis. The systemic review of literature involved a thorough review of existing scholarly literature from computerized databases including Google Scholar and PubMed. Literature published from 2015-2020 was included. Additionally, the chair and doctoral committee members served as second reviewers throughout this project.

The approach to this systematic review of the literature was chronological. The study was ordered from the oldest to the most recent and based on the identified topics and patterns. This organization method helped demonstrate the synthesis of the material from topics from the oldest to the newest research studies and reports. Additionally, these systems helped me be more concise in conducting the systemic review of the literature (Galvan, 1999).

To date, the DoD does not have effective strategies to stop tobacco use among military personnel (Ulanday et a. 2017). By identifying the most effective smoking cessation strategies, it would help service members to deter tobacco use that would eventually improve their overall health and people around them, improve their physical performance and medical readiness, improve their productivity, decrease missed workdays, decrease individual and DoD medical expenses, and more importantly, increase overall troop fighting strength.

These effective strategies from the evidence gathered through the systematic literature review above included reducing barriers to tobacco cessation by providing tobacco cessation options without requiring them to attend tobacco cessation class so they would not have transportation issues or missed workdays due to conflict schedules seem to be the most effective options. These included providing them any necessary nicotine replacement products or medications, online smoking cessation education, telephone or text message smoking cessation programs, and behavioral or motivational counseling needed to help them to quit using tobacco.

Additionally, the success of the tobacco cessation program also depended greatly on the command leadership support of the program. The command leadership plays an important role in supporting the tobacco free military. They should reenforce the tobacco control policy, speak directly to the service members about the tobacco use policy and how tobacco use negatively impacted their careers, increase physical activity of service members, portray a good example to lower-ranked service members by not using tobacco themselves, provide adequate funding and staffing to sustain the tobacco cessation program, and minimize smoking pits. The success of tobacco cessation strategies in military settings could also be offered to the general population.

To determine the effectiveness, the military could survey service members who participated in each of the recommended strategic tobacco cessation options such as online tobacco cessation counseling and education, telephone or text message tobacco cessation program, open policy program to choose nicotine replacement products without attending tobacco cessation class, or the traditional method of attending class.

Additionally, a survey could also be conducted with strong leadership support of the tobacco cessation program, stricter implementation of tobacco control policy, strong leadership roles in portraying a good example by not using tobacco products, and minimizing designated smoking area or smoking pits could prevent tobacco use in the military.

The database management system is a software system that uses a standard method of cataloging, retrieving, and running queries on data. The systemic review of literature involved a thorough review of existing scholarly literature from computerized databases including Microsoft Access, Microsoft Excel, and MySQL. While some of the search engines that were utilized included Walden University Library, Google, Bing, Yahoo!, Microsoft Network Search, Military Medicine, Department of Defense, Department of Veteran Affairs, WHO, and U.S. Army Medical Research Institute of Infectious Diseases, ClinicalKey, UpTodate, DynaMedPlus, CDC, Pub-Med, Cochrane, CINAHL, MEDLINE, NIH, U.S. The research literature included for analysis were from 2015-2020. The DNP project chair and committee members served as guidance and second reviewers throughout this project.

The key search terms and combinations of search terms used during this literature search included *tobacco use in the military, smoking in the military, the prevalence of smoking in active-duty military personnel, smoking in a deployment setting, smoking prevalence in the military, tobacco control policy in the military, smoking cessation, smoking cessation program in military, barriers to smoking cessation among active-duty*

military personnel, the negative impact of tobacco use for soldiers, and *the financial cost of smoking in the military,* to name a few.

The literature reviewed on this project ranged from 2015 to 2020. The types of literature searched included primary literature, also called empirical research, which was original studies based on direct observation, use of statistical records, interviews, or experimental methods of actual practices or the actual impact of practices or policies (Georgia State University Research Library, 2020). This type of literature was usually published in journals such as the New England Journal of Medicine, Journal of Medical Library Association, or military medicine.

During the literature search, many strategies were utilized and optimized to find the best literature that was sensitive and time-specific to answer the project question and fill the gap in practice. An extensive search utilizing the encyclopedia and search engines/browsers was also exhausted to find the best literature possible to fit and answer the project question. Additionally, multiple key search terms and combination search terms were employed to find the best empirical research articles that were published between 2015 to 2020. This included utilizing help from Walden University librarian in locating the most sensitive and time-specific and up to date research articles.

The role of the Walden University IRB is ensuring that research complies with the university's ethical standards along with U.S. federal regulations. The IRB ethics review and approval are mandatory for every student to have before participant recruitment, data collection, or data set access (Walden University Academic Guides, 2020). Therefore,

Walden University will not give credit for any student work that is conducted without an IRB ethics approval or fails to comply with basic IRB requirements.

The Office of Research Ethics and Compliance (OREC) is primarily responsible for ensuring that every research study is allied with the institution's ethical standards. This includes the protection of human subjects as well as ethical partnerships with sites and appropriate use of scholarly tools (Walden University Academic Guides, 2020). All doctoral capstones require ethics approval from the OREC, even if they might be considered exempt from IRB oversight at some other institutions. Since this project was conducted through a systematic review of the literature, no human subjects or human experiments were conducted and no human rights violations occurred.

Analysis and Synthesis

There were a few variables that played a significant role in identifying the most effective cessation strategies or programs that may or may not apply to military personnel challenges. The first variable involved utilizing a combination strategy of cessation medications approved by the FDA with 26% success rate and behavioral counseling with 7% success rate (Bary-Weisberg et al., 2019; Chen et al., 2016). When used in combination, this strategy is considered to be the most cost-effective cessation strategy in any setting. This is especially true in the military setting where high anxiety and stress levels, as well as a personal history of PTSD, present enormous challenges for our service members (Poston et al., 2017). This combination will provide extra support and motivation to quit, especially considering the extraordinary challenges they face. This strategy mirrors the SEM framework by providing strong socio-political support,

leadership support, and giving tobacco cessation service treatment options including other necessary counseling (Minian, 2008). One of the potential barriers in theater is the lack of medicinal supplies or mental health support for counseling, which can be another common issue that service members encounter.

A second variable is the unassisted or self-help method. Although civilian sectors claimed that self-readiness was the number one reason for successful cessation having stopped unassisted with a high of 72% success rate, this strategy presents a great challenge among our troop members (Soulakova & Crockett, 2017). This is especially hard among service members, where high-stress levels, anxiety, personal history of PTSD, depression, and peer pressure, among other issues, greatly challenge their agility and resilience in smoking cessation. Thus, self-help would likely be the least effective cessation strategy in military settings. This cessation strategy reflected the TTM framework where individual readiness and environment played a significant role in cessation success (Sharma et al., 2017).

The third variable involves service cessation delivery options. Besides its efficiency, the utilization of cessation strategies through proactive quitline counseling, short text message, web or internet-based interventions, and certain life events have been found to motivate quit attempts and increase smoking cessation, especially when they contain behavior change techniques and interactive components tailored to individual responses (Chen et al., 2016; Department of Health and Human Services, 2020; Soulakova & Crockett, 2017). These strategies seem more favorable in the younger generation with technology savvy and busy schedules, which fit well with the majority of

the service members. However, sometimes cellular or internet connectivity is a challenge in the theater or austere environment. In-person smoking cessation classes that typically last anywhere from 4 to 10 weeks, on the contrary, were reported as the least favorable method of cessation both in civilians and military settings due to its inflexibility. Additionally, participants tended to get bored with the program content and eventually dropped out (Bary-Weisberg et al., 2019; Poston et al., 2017; Smith et al., 2016).

Summary

Tobacco use among military personnel remains considerably high compared to the general population 24% versus 21.2% (Ulanday et al., 2017). Tobacco use among service members has been associated with a decrease in service members' physical performance, decrease physical fitness that will eventually impair their medical readiness and decrease troop fighting strength (Bary-Weisberg et al., 2019; Myers et al., 2018; Truth Initiative, 2018). To date, the DoD has not found effective strategies to deter tobacco use among service members (Ulanday et al., 2017).

To answer the practice-focus question, a thorough literature search with the most sensitive, time-specific, and up to date evidence has been conducted. These included the utilization of databases, search engines, key terms, and software. Then evidence would be first saved in a pdf file, organized in Microsoft table, followed by organizing them in Microsoft Excel. The PRISMA flow chart and the JHNEBP model would be the approach and method to analyze the evidence in systematic review literature. Other discussions included the requirement in obtaining approval from Institutional Review Board (IRB) to ensure compliance with Walden University's ethical standard, federal regulation on

human rights protection (Walden University Academic Guides, 2020). Additionally, substituting or replacing missing values, trimming the data set, and estimating the values of outliers using robust techniques were the method used in replacing missing values and outliers to maintain the credibility of the study being reviewed (Kwak & Kim, 2017). Through literature review and data analysis would be discussed in section 4 to answer the practice-focus question.

Section 4: Findings and Recommendations

Introduction

Even though tobacco use has long been known to negatively impact service members' physical performance, medical readiness, and overall troop fighting strength, it remains a pandemic among military personnel, especially in combat zone deployment settings where anxiety and stress levels are always high (Bary-Weisberg, 2019; Myers et al., 2018; Truth Initiative, 2018). In 2014, it was reported that tobacco use prevalence among active duty service members stationed in the Middle East was approximately twice the U.S. national average (DiNicola et al., 2014). This was attributed to a gap in the practice, which was a lack of best practice strategies to deter tobacco use in theater. Therefore, the gap in practice this project was focused on was the lack of best practice strategies to deter tobacco use among military personnel. The practice-focused question asked whether a systematic review of literature could lead to the discovery of the most effective means of tobacco cessation strategies used in general populations that would be feasible to stop the high smoking prevalence among military personnel. The purpose of this doctoral project was to identify the best strategies and effective methods for the general population that may be tailored to deter smoking cessation among military personnel. The focal point of this project was to gather evidence of effective tobacco cessation strategies to combat the higher rates of tobacco use among military personnel.

To answer the project question, a systematic review of the literature was conducted with data review and analysis. There were a few methods used to record, track, organize, and analyze the evidence in this systematic review of the literature. First, the

PRISMA flow chart entailed a description of the research articles selection process, and determination was used to categorize the selected existing scholarly literature (Liberati et al., 2009). The PRISMA flow chart depicted the flow of information through the different phases of a systematic review. It mapped out the number of records identified, included, and the reasons for exclusions.

There are three steps being utilized on the table 1.1 of the JHNEBP model. The JHNEBP model is a powerful problem-solving approach to clinical decision-making, which is primarily involving a three-step process. These include practice question, evidence, and translation (Dearholt & Dang, 2017). The goal of the JHNEBP model was to ensure that the latest scholarly research findings and best practices were quickly and appropriately incorporated into patient care (Dearholt & Dang, 2017). By utilizing this three-step process, this project identified the latest and most effective means of tobacco cessation strategies.

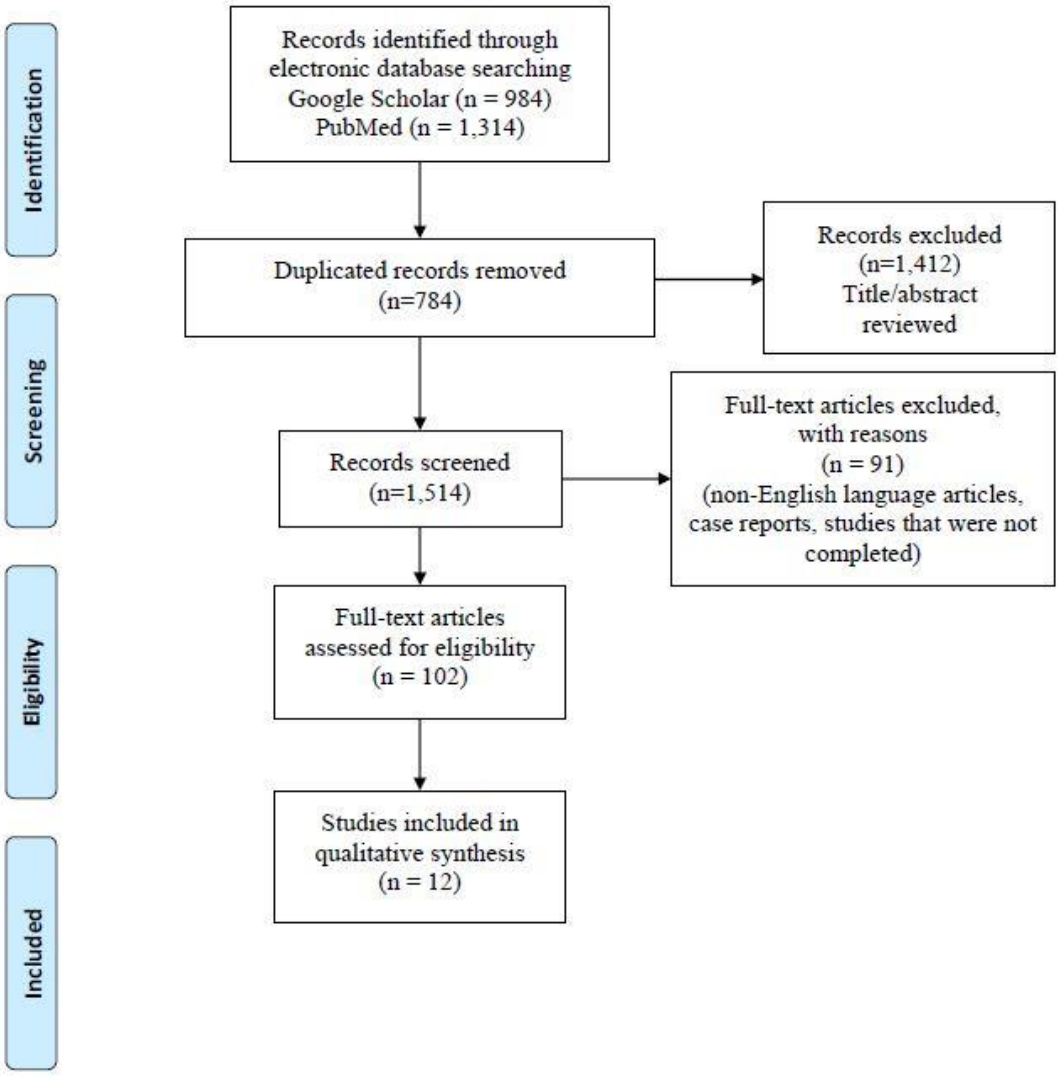
Further, the evidence of this systematic review of the literature was organized in chronological order. The study was ordered from the oldest to the most recent and based on the identified topics and patterns. This organization method helped demonstrate the synthesis of the material from topics from the oldest to the newest research studies. Additionally, these systems made conducting the systemic review of the literature more concise (Galvan, 1999). To ensure the integrity of the evidence presented on the existing literature of review, missing information and outliers were carefully examined by reducing the trimming sample size or data set and replacing missing values with substituted values (Kwak & Kim, 2017).

Findings and Implications

The three steps being utilized in the PRISMA flowchart present the practice question. The review yielded 12 research articles for final inclusion. See Figure 1 for the PRISMA flowchart.

Figure 1

The PRISMA Flowchart



Note. Adpated from "The PRISMA Statement for Reporting Systematice Reviews and Meta Analyses of Studies That Evaluate Health Care Interventions: Explanation and Elaborations," by D. Moher, A. Liberati, J. Tetzlaff, & D. G. Altman, The PRISMA Group, 2009, *PLoS Med*, *6*(7): e1000097 (https://doi.org/10.1371/journal.pmed1000097)

Table 1 is a detailed description of studies using the JHNEBP model to ensure that the latest research findings and best practices are quickly and appropriately incorporated into patient care (Dearholt & Dang, 2017). This table displays the strategies to deter the high prevalence of tobacco use in the military and the civilian population, the tobacco cessation barriers, the most common methods of cessation chosen, and the reasons for tobacco use. The studies were carried out between 2015 and 2020. With that, on the 17th of March 2019, an initial research strategy was developed, and on the 26th of January 2020, the second searched of scholarly articles was conducted using multiple databases. Additionally, upon the DNP program chair recommendation, a third search of scholarly research articles was conducted. Initially, the search was intended to be conducted in multiple online databases; however, due to availability, the two databases were used in this project were Google Scholar and PubMed.

Studies included in the analysis addressed tobacco use among the homeless, minorities including those in the U.S. and the Middle East, the feasibility of a text-messaging smoking cessation program for soldiers stationed in the Middle East, and factors associated with accepting assistance for smoking cessation among male and female military veterans including those who returned from Middle East. Recent combat zones caused psychotic disorders among active duty service members and veterans. One study specifically interviewed physicians on the use of "lung age model" as a strategic motivation to tobacco cessation among COPD smokers and if a brief introduction to smoking and smoking cessation can increase smokers' motivation to quit. Another study

interviewed tobacco control managers' perspectives on installing tobacco control programs in the U.S. military.

Table 1

Review of Literature

Author	Year	Sample	Method	Key findings
Chen et al.	2016	100 consecutives homeless in individuals at Siena/Francis House completed the anonymous questionnaire willingly between March 1, 2014, and May 30, 2014.	The survey consisted 22 questions requiring fill-in-the blank responses or ranked responses using a Likert scale from 1-5 values	Anxiety, cravings, lack of resources for cessation programs/support, not viewing cessation as an important goal, and peer pressure are among the barriers named to tobacco cessation. Nicotine replacement therapy was perceived by respondents to be the most desired form of smoking cessation aid, followed by non-nicotine containing medications, such as varenicline or bupropion, then no therapy, support from family and/or friends, and formal counseling.
Soulakova & Crockett	2017	3,583 long-term quitters (quit 1-3 years prior to the survey) and 2,205 recent quitters (quit within a year prior to the survey), who responded to the 2010–2011 Tobacco Use Supplement to the Current Population Survey.	The 2010-2011 TUS-CPS data for former smokers were analyzed. Researchers used built-in procedures in the survey package in SAS/STAT9.4,26	The study reported majority of former smokers quit unassisted, while a few used at least one pharmacological method, and some used at least one nonpharmacological method. The most common pharmacological methods selected were the nicotine patch, Chantix/varenicline, and a nicotine gum/lozenge. For long-term quitters, cutting back on cigarettes gradually and relying on social support were more commonly associated with pharmacological methods.
Parker et al.	2015	Post-intervention interviews were conducted with 29 PCPs in the U.S. who participated in the randomized clinical trial, "Translating the GOLD COPD Guidelines into Primary Care Practice."	Themes identified during interviews included: general usefulness of lung age for smoking cessation counseling, ease of understanding the concept, impact on patients' thoughts of quitting smoking, and comparison to FEV1.	Most providers found using the lung age easy to communicate. Moreover, some found the tool to be less judgmental for smoking cessation, as others remarked on the merits of having a simple, tangible number to discuss with their patients. However, some expressed doubt over the long-term benefits of lung age while others thought that there might be a potential backfire for healthy smokers if their lung age was ≤ to their actual chronological age.

(continued)

Author	Year	Sample	Method	Key findings
Masefield et al.	2016	A web-based observational cross-sectional questionnaire was disseminated across Europe and was available in 16 languages. The questionnaire was open from December 2012 to March 2013.	The 18-item questionnaire covered four main topics: cohort characteristics; perspectives on smoking cessation; interactions with healthcare professionals; and recommendations to improve cessation outcomes.	The study found the common characteristics of lung conditions on smoking behaviors and cessation included males, age 40-55 years, 11-20 cigarettes a day, who smoke within 30 minutes of waking, made 1-5 cessation attempts in the previous months, and tried cessation treatments but had not found any treatments helpful.
Jung et al.	2018	304 participants among Arab minority male current and former smokers (ages 18-64) in Israel, among whom smoking is very high.	A mixed and participatory research method that incorporates qualitative and quantitively data collection. A three-stage study: A concept mapping (CM) study, clusters identified by using the behavioral ecological model (BEM) and classification of clusters into intervention functions and policies using the Behavior Change Wheel (BCW).	The CM study revealed 58 barriers and facilitators for smoking prevention and cessation that were sorted into 11 clusters by the participants. These clusters were analogous to four BEM level contingency of smoking (social, institutional, community and individual). Based on BCW, it classified it into two main policy categories: 1) restructuring the socio-political environment of smoking through affirmative government's policies towards Arab minority in Israel, and 2) developing a culturally appropriate plan for smoking cessation in Arab local authorities including: raising awareness about tobacco hazards; enforcing anti-smoking laws; strengthening community institutional action; providing smoking cessation services; considering raising prices for tobacco products, addressing psychological sources of smoking in Arab men.

(continued)

Author	Year	Sample	Model	Key findings
Myers et al.	2016	2941 Veterans, 10.3% female, 19.9% African American, 10.7% Hispanic, and 57.9% non-Hispanic White. Veterans averaged of 50.69 years of age (SD = 14.01), 31.5% had a substance use disorder diagnosis and 54.1% had a psychiatric diagnosis.	Electronic medical record data (2011-2013) were obtained for a sample of US military Veterans who accepted cessation assistance from their health care provider. Demographic and diagnostic variables were examined to identify predictors of the types of assistance needed.	The study found significant differences between those who accepted medication only and/or both medication plus clinic referral. Veterans who accepted either clinic referral or both medication and clinic referral were younger and more likely to have a psychiatric diagnosis than those accepting medication only, especially in female veterans.
Little et al.	2017	1500 smokers from DoD TRICARE beneficiaries which comprised active duty and veterans and their dependents. At least 18 years of age and have smoked five or more cigarettes a day for at least 1 year. Participants must be located within the continental United States, Hawaii, Alaska, and bases worldwide with adequate medical infrastructure and an address at a military installation where NRT can be mailed.	Randomized controlled trial. Every eligible cigarette smoker who called requesting assistance with smoking cessation received a non-randomized, baseline standard smoking cessation program using proactive quitting line. All participants receive 8 weeks of NRT in the form of a patch. Smokers who fail to quit or relapse with this initial QL intervention are randomized to one of three conditions at 3 months: Recycle, Rate Reduction, or Choice conditions.	The study demonstrated that a Proactive QL conducted in the military significantly increased smoking abstinence rates compared to a Reactive condition at long-term follow-up (one-year). However, they study also found significant smoking relapse following completion of the quit line intervention. Specifically, among 344 participants achieving prolonged smoking abstinence at 8 weeks, 170 (49%) relapsed to smoking by 12 months. Additionally, the telephone survey of state-funded tobacco quit lines revealed that quit lines use both recycling and rate reduction to re-engage smokers. The Freedom Quit Line study assesses which strategy is the more effective for re-engaging smokers who relapse to smoking or fail to achieve abstinence.

(continued)

Author	Year	Sample	Method	Key findings
Christiansen et al.	2015	522 smokers: age 18 or older and currently smoking (≥1 cigarette daily or ≥10 cigarettes per week for the past year). Exclusion criteria were inability to read and write English and plans to relocate within 3 months.	Of 522 smokers, 102 expressed motivation to quit and served as a comparison group. The remaining 420 smokers were not motivated to quit and were randomly assigned to 1 of 3 conditions: an intervention group who received brief counseling focused on cessation goals and beliefs, an attention-control group, and a low contact control group.	The primary outcome was unmotivated participants in the intervention condition called the Wisconsin Tobacco Quit Line at a significantly higher rate (12.2%) than did those in the 2 control conditions (2.2% and 1.4%) ($p < .01$) and approached the rate of calling by participants who were initially motivated to quit (15.7%). Intervention condition participants also showed improved motivation to quit and stage of change. The study concluded that a brief, targeted motivational intervention focusing on cessation goals and beliefs increased the initiation of an evidence-based tobacco cessation treatment by low-SES smokers.
Smith et al.	2016	20 Tobacco Control Managers from five military installations: Naval Hospital Guam, Tripler Army Medical Center, MacDill Air Force Base, and the Naval Hospital at Marine Corps Air Ground Combat Center at Twentynine Palms.	A comparative analysis through open-ended semi-structured interviews, observations, and focus groups on each installation's smoke-free status and tobacco control policy development, cessation program, and climate.	The study found installation culture shaped the views on tobacco use on base. Therefore, military leadership's support is crucial aspect on the implementation of tobacco control policy and sustaining tobacco cessation program. Requiring service members to attend tobacco cessation class, having tobacco sales and advertisement on military bases perceived as barriers to cessation. While eliminating designated smoking area, increase physical activity, and having leadership to continue speaking to service members about tobacco control policy are thought will decrease tobacco use prevalence in the military. Anxiety, boredom, cravings/addictions, and peer pressure view as the reasons service member's smoke.
Bary-Weisberg et al.	2019	81 soldiers who smoked, 76.5% of whom were male	A baseline, 1mo, & 6mo surveys were collected. Soldiers were given a text messaging program for 6 months & could send predetermined keywords and immediately received a response to the specific keyword.	High percentage of the participants were engaged in the program and most of the soldiers (96.8%) found the program easy to use and would recommend to a friend (84.1%). The study presents that a text-messaging smoking cessation program is feasible in a military setting. Further implementation and assessment of digital smoking cessation tools for soldiers are warranted.

(continued)

Author	Year	Sample	Method	Key findings
Lando et al.	2015	Naval officers, military news, scientific literature documents, internet and popular media.	Case Study - interviews conducted with Navy officers who were instrumental in policy implementation, searched on the military-based news outlets, the scientific literature documents on the internet, and popular media.	Substantial exposure of non-smokers to tobacco smoke aboard submarines had major impact on successful adoption of the policy. A systematic and extended roll out of the ban included establishing a working group, soliciting input and active engagement from submarine personnel, and offering cessation assistance. Support was enlisted from Chief Petty Officers who could have been strongly opposed but who became strong proponents. Fewer problems were encountered than had been expected. In contrast to a previous unsuccessful attempt by a Navy captain to ban smoking on his ship, the ban was adopted without apparent tobacco industry interference.

Eleven studies were selected for inclusion by utilizing both the PRISMA flow chart and the JHNEBP model. These studies consisted of cross-sectional surveys, interviews, and a randomized control trial. Because tobacco use both in civilian and in the military settings was beyond the individual level, utilizing the SEM and the TTM reflected excellent frameworks of the high tobacco use prevalence and barriers to the cessation that involved multi-level interventions especially policies and programs (Minian, 2008).

The most commonly identified strategies in SEM were having a strong tobacco control policy and support from the government and local authority view as the top priority and strategy to overcome the socio-political environment that supports tobacco use (Bary-Weisberg et al., 2019; Jung et al., 2018). Consequently, in the military having the top military and civilian leadership to mandate a no tobacco use policy for every service member, stopping tobacco sales in military bases and ending tobacco company

advertisements in periodicals, limiting and eventually eliminating designated smoking areas is vital to combat the high prevalence of tobacco use with the ultimate goal of the tobacco-free military and civilian environment. Additionally, providing tobacco cessation services or treatment options (such as via text message or telephone, quit line, medication options, formal counseling, or other necessary supports or motivational counseling) were vital for the tobacco cessation success.

While in TTM, it was identified that quit-unassisted was among the popular strategy chosen (72%), at least one pharmacological method (26%), and with 7% utilization on at least one nonpharmacological method (Bary-Weisberg et al., 2019; Chen at al., 2016; Soulakova & Crockett, 2017). This unassisted therapy was still considered as one of the top and predominant means of recent and long-term tobacco cessation strategy options selected. This was because many attempters might try different ways of quitting during the same cessation attempt (Soulakova & Crockett, 2017). Besides, the success of tobacco cessation was greatly affected by an individual's readiness and determination to quit. This might lead attempters to try different kinds of cessation methods while they went through different stages of change before they finally decided to quit successfully, which makes TTM well for this tobacco cessation framework (Sharma et al., 2017). Some of the obstacles identified with unassisted program was nicotine withdrawal since typically most of these participants tend to giving up cigarettes all at once. This forced some participants to perform the self-help behavioral measures included gradually on cutting back on cigarettes switching to smokeless tobacco, regular cigars or pipes filled with tobacco (Soulakova & Crockett, 2017). While additional challenges such as

cravings and triggers as well as handling stress were among the common identified obstacles in unassisted quitting (Soulakova & Crockett, 2017).

When it came to mediations, surprisingly, nicotine patch was the most common and popular medications selected in nicotine replacement therapy followed by vernicle (Chantix), bupropion or Wellbutrin, and nicotine gum or lozenge (Chen et al., 2016; Soulakova & Crockett, 2017). Somewhat surprisingly, stress was consistently viewed as the biggest barrier to smoking cessation followed by nicotine cravings, regardless of which quitting methods they chose (Chen et al., 2016; Soulakova & Crockett, 2017). Further, availability of cessation resources including medication supplies and perceived lack of importance in quitting were identified among obstacles with pharmacological program (Chen et al., 2016).

From the data analyzed, one of the most common barriers to tobacco cessation identified in both the military and civilian population was anxiety and excessive stress levels that lead to more tobacco use as a short-term relief for anxiety. Other barriers identified include cravings, inadequate resources or support for cessation/program, socio-political environment, a culture that supports tobacco use, government's tobacco control policy, lack of perceived the importance of tobacco cessation, lack of readiness to quit, and peer pressure (Chen at al. 2016; Jung et al., 2018; Smith et al 2016).

Smith et al (2016) identified that tobacco sales in the military installations and tobacco advertisement in military periodicals could also be perceived as contributing barriers to successful tobacco cessation. Similarly, high-stress levels in the combat zone

and cravings for nicotine are also common reasons people use tobacco followed by peer pressure, boredom, or lack of physical activity.

Additional limitations of the research studies included the scope of the study. Some studies were only conducted in a single-center or area leading to results that might not be entirely reflective of the entire patient population. Moreover, privacy restrictions in maintaining participant identities and the unknown demographic characteristics of tobacco use status of the participants might prevent researchers from examining how tobacco use status might have influenced the perspectives of each of the participants. Also, some studies only employed voluntary participation with a very low nonparticipation rate of less than 5%. This convenience sampling of volunteers could also be seen as self-selection bias.

Other unanticipated limitations that merit consideration included the small sample size. For example, in their studies, Poston et al. (2017) interviewed 20 officers (commanders) and Bary-Weisberg et al. (2019) only surveyed 81 service members. Therefore, it was not possible to know how well the findings represent all military leaders and service members across the board. Also, participants were lower-level commanders; no studies have included top military leaders who were in key positions to set wide-ranging policies, that was, flag or general officers or civilian leaders such as the secretaries of each armed service at the major command or service levels. While the hierarchical nature of the military means that senior military leadership dictated the approval and enforcement of a strong tobacco control policy. None the less, despite the limitations, the strategies presented in some of the work literature were analyzed, this

study would be quite beneficial to future tobacco cessation clinicians, scholars, and researchers who could utilize these practices.

Quitting smoking or tobacco cessation was probably one of the hardest things for an individual had to do. For most people, they might have to go through multiple attempts and relapses before they can quit for good. This was probably due to the fact most individuals might encounter more challenges or barriers than others of which could influence their success in quitting. Some of these individual's barriers identified from this systematic review of literature include psychiatric disorders, high-stress levels such as being in a combat zone area, sheer boredom, lack of family support, readiness to quit, and nicotine cravings (Chen at al., 2016; Myers, Chen, & Schweizer, 2016).

When it came to external influences, peer pressure and lack of support from family, friends, peers, community (socio-political environment) or local authority government were the most significant barriers preventing smokers from achieving successful tobacco cessation (Chen at al., 2016; Jung et al., 2018; Smith et al., 2016). Similarly, lack of support from the military leadership, the institutions' tobacco control policy, culture, and viewpoint on tobacco use as well as the hierarchical tendencies were found as barriers to tobacco cessation in the military (Smith et al., 2016). With all of that in mind, the success of tobacco cessation program depended upon the individual readiness and determination to quit, adequate resources and support of cessation/program, supportive socio-political environment, and culture that support tobacco cessation as well as having strong tobacco control policy that is initiated from both the top military and

civilian leadership were vital for the program success. These strategies worked for both the military or civilian populations.

Identifying the most effective means to deter tobacco use and optimizing tobacco cessation promoted positive social change and decreased our public health burden in many aspects. Over 16 million Americans are living with tobacco-related diseases (CDC, 2018). Identifying effective tobacco cessation strategies leads to an overall healthier community, a decrease in medical care visits related to lung disease, cancer, COPD, heart disease, stroke, diabetes in addition to certain eye disorders, and autoimmune diseases such as rheumatoid arthritis (CDC, 2018; FAD, 2020). Thus, effective cessation strategies helped nurses implement preventive medicine around the world so tobacco users could quit once and for all. This improvement in nursing practice would lead to an overall healthier population. It would also result in a better quality of life for tobacco users themselves, the people around them as well as reduce financial costs from tobacco use.

Similarly, in the military setting, identifying the most effective tobacco cessation strategies ultimately would improve service members' physical health, medical readiness, increase productivity, and ultimately reduce the financial burden that cost the DoD 1.6 billion annually from tobacco-related illness and missing workdays (Poston et al., 2017; Bary-Weisberg et al., 2019). Consequently, this would bring positive social change in the military by improving the overall health of service members, the military community, and increase troop fighting strength. New and innovative treatment strategies in tobacco cessation would translate to larger-scale civilian populations worldwide. Effective

tobacco cessation strategies could not only improve the health of the military community but also the community at large across the globe.

Recommendations

Tobacco use goes well beyond an individual who smokes. Rather, it is influenced by social, environment, policy, and systems that support tobacco use. Therefore, these projects findings suggest that having a socio-political environment that supports a tobacco-free culture by employing both stricter and stronger tobacco use policies were needed to override the long history of tobacco use in both civilian and military settings. This was more imperative in the military where tobacco use had been long known as part of the military culture (Bary-Weisberg et al., 2019; Smith et al., 2016; Poston et al., 2017). Additionally, the military has to take advantage of the hierarchical and disciplined nature by empowering senior leadership and civilian leadership to enact a tobacco-free military. This includes involvement of secretaries of each armed service, and the Secretary of Defense to substantially diminish tobacco use by military personnel (Poston, et al., 2017). These two combined leaderships could put a stop to all tobacco sales on military bases and installations. They also had the ability and power to put a stop to tobacco advertisement in periodicals, limit or eliminate designated smoking areas as well as mandating no tobacco use policy for every service member regardless of the settings to support the DoD's goal of creating a tobacco-free military.

The development of a scholarly project and dissemination of the project required utilization of many of the American Association of Colleges of Nursing's DNP essentials (AACN, 2006). The development of a tobacco cessation program was heavily influenced

by the SEM and the TTM which both fit well-considering tobacco users and their tobacco cessation journeys in both civilian populations and in the military settings were influenced by individual readiness, environment, structural, hierarchical, historical of tobacco use policy, and institution's culture involved multi-systems (Minian, 2008; Sharma et al., 2017).

Working toward local dissemination with the aim of improved care quality fulfills essential 2, which is Organization and Systems Leadership for Quality Improvement (AACN, 2006). The creation of the scholarly project required a great deal of analysis and critiquing fulfilling essential 3- Clinical Scholarship and Analytical Methods for Evidence-Based Practice (AACN, 2006). Additionally, the goal of dissemination locally in the military setting to advance current policy to ensure improved health care and assist the interdisciplinary team in providing care for service members living with tobacco-related illness, meeting two more DNP essentials (AACN, 2006).

Strengths and Limitations of the Project

There are a few limitations to this systematic review of the literature. For one, given the nature of this project, this scholar did not have a direct observation on the potential personal biases from the participants on the study were reviewed. On the other hand, the data on this study was collected from the latest, most specific, time-sensitive collection of research studies with credible sources. Thus, ultimately the result of this study's finding on identifying the most effective strategies in smoking cessation could be applied to both military personnel and the civilian population worldwide. The outcome of this endeavor was to find the most effective tobacco cessation program to improve the

population's health across the world (military and civilian) and decrease the overall public health financial burden that tobacco has caused. Consequently, the success of the tobacco cessation program would improve many aspects of life individually, family, community, institution, nation, and system worldwide across the life span.

One of the most important considerations for future scholars who desire to research similar topics and utilizing similar methods is to perform a thorough investigation on the topic and to be sure adequate research studies are available to support the project itself. This is the most important step because one of the likely limitations any scholars face in the military where research studies are limited and often difficult to find. In doing so, it will help scholars tremendously in moving the project forward without unnecessary delays. Additionally, completing this type of scholarly project while on active duty deployment overseas was another enormous challenge to have with the limited time and constantly changing the military setting. Therefore, being flexible and willing to compromise with the unpredictable military environment is a must. This because any change in the security level will shift the focus and mission of the practice.

Section 5: Dissemination Plan

The dissemination plan of this scholarly project was to start locally at my clinical setting which is the home of men and women service members including active-duty and reservist military personnel, my community, and my workplace. The goal of dissemination locally was to advance the current tobacco control policy, change the culture, and shift the institution's view of tobacco use to deter the high tobacco use prevalence in the civilian and military population. The aim of implementing new and innovative tobacco cessation strategies was to improve the overall health of the community at large and alleviate the high public cost burden due to tobacco-related illness. The success of tobacco cessation in the military setting aimed primarily to improve service members' physical fitness and medical readiness and to improve a healthier military community, all of which would lead to overall troop combat readiness, increase work productivity, and decrease the DoD burden on health spending associated with tobacco-related illnesses, injuries, extra training, and premature discharges. This tobacco cessation treatment program could apply to larger-scale military settings, the Department of Veteran Affairs nationwide, and civilian populations worldwide. The ultimate goal of this effective tobacco cessation strategy was to create a tobacco-free military in all the five military branches: the Air Force, Navy, Army, Marine, and Coast Guard.

Tobacco use is a worldwide pandemic affecting both civilians and military members of all class and rank (CDC, 2018; FAD, 2020). Generally, tobacco use has been linked to lung diseases such as asthma, COPD, emphysema, cancer, heart disease, stroke,

diabetes, certain eye disorders, and autoimmune disorders (CDC, 2018; FAD, 2020). In the military, tobacco use has been known to impair service members' medical readiness, decrease productivity, and cause premature discharge associated with tobacco-related illness or injures (Bary-Weisberg, 2019; Poston et al., 2016). Therefore, the dissemination of new and innovative treatment strategies in tobacco cessation could potentially be applied to the broader nursing profession and larger-scale civilian populations worldwide. These include construction, food service, transportation, waste management, and manufacturing workers to name a few where tobacco use tendencies are also high (Syamlal et al., 2017). Having effective strategies to prevent and reduce tobacco product use among working adults is extremely important for the success of a tobacco cessation program. Studies showed that workplace tobacco-control interventions in similar practice settings have been especially effective in reducing cigarette smoking prevalence (Syamlal et al., 2017).

Analysis of Self

I am a nurse practitioner, a Captain in the United States Army Reserve, and a DNP scholar. I have been fortunate enough to be able to complete my clinical practicum and DNP scholarly project while on overseas deployment. However, I have to admit, conducting and completing this scholarly project while on active duty military deployment overseas was a challenge. I could personally relate to how active duty deployment and being away from so many conveniences and love ones, anxiety, and high-level stress, peer pressure, and boredom drives service members to use tobacco.

Completing this DNP scholarly project made me realize how rigid our military system can be. This forced me to become a better project manager for my DNP scholarly project. I became a fearless leader in advocating my clinical setting's desperate need for leadership support in sustaining the tobacco cessation program. This included having integrated tobacco cessation services involving the clinical staff, community health nurses, medical providers, mental health providers, and pharmacists to support the program's success.

My long-term goals are to continue becoming a tobacco cessation advocate for my family and friends, community, patients, and ultimately, the military community and fellow soldiers. I plan to disseminate my evidence-based project starting locally in my community, military base, and workplace in the Veterans Affairs Medical Centers. The success of identifying and implementing new innovative treatment strategies in tobacco cessation at my local settings potentially can even be applied to our larger community, bigger military settings, the Veteran Affairs nationwide, and civilian populations worldwide. I have always considered myself a life-long learner and kept myself abreast of the latest research study findings and technology. Thus, my experience in completing the DNP scholarly project is a starting point for me to build on my knowledge to progress in my career as a steward for the nursing profession. With hope, this will become an essential tool for my professional growth and development as an agent of change and influencer in the nursing profession. This way, I can continue to improve my knowledge and clinical skills to provide the very best quality of patient care and health continuum across the lifespan.

I gained significant insight while completing and disseminating this scholarly evidence-based practice project. I learned that despite many attempts by the various branches of the military to initiate smoke-free policies, none are truly smoke-free (Truth Initiative, 2018; USFDA, 2020). To date, the DoD has not had effective means/strategies in combating the high prevalence of smoking. The military rigid system on the status quo and resistance to change were likely the major contributing factors to such failures. Thus, I realize that the success of the tobacco cessation program in the military depended highly on the present top leadership and command support to run and sustain the program.

For this reason, I proposed a consistent collaboration and integration from all multidisciplinary teams including nursing staff, community health nurses, medical providers, mental health providers, pharmacists, command, top military, and civilian leaderships to support the tobacco cessation program. This tobacco cessation program not only could be applied to our service members but also the civilian population worldwide. This would satisfy DNP essential 6, inter-professional collaboration for improving patient and population health outcomes (AACN, 2006).

Summary

Nicotine addiction is one of the most prominent and difficult substance addictions to overcome, especially in the military where tobacco users face unique and unusual situations that make it even more of a challenge to quit (Piston et al., 2017). Tobacco use, especially cigarette smoking, is still the world's number one leading addictions compared to alcohol in both military and civilian populations. Consequently, tobacco-related illnesses remain one of the leading causes of mortality and morbidity in the United States,

and sadly, it remains the leading cause of chronic diseases and preventable death among adults worldwide (CDC, 2018). The negative impact of tobacco use also alters service members' physical health, impairs their medical readiness, decreases troop fighting strength alters productivity, and increases DoD annual health care spending burden (Bary-Weisberg et al., 2019; Smith et al., 2017). Despite many attempts of tobacco cessation programs in both civilian and military settings, tobacco use remains high. For those reasons, further research to identify the most effective tobacco cessation strategies must be pursued to deter the high prevalence of smoking in both civilian and military populations.

To answer the practice focus questions, a thorough systematic review of literature was conducted utilizing PRISMA flow chart and the JHNEBP model approach as well as the SEM and the TTM theoretical frameworks to identify the most effective means to combat high prevalence tobacco use both in civilian and military populations via methods of cessation. Eleven studies were selected for inclusion, which consisted of cross-sectional surveys, interviews, and a randomized control trial. The most commonly identified tobacco cessation strategies in SEM were the existence of a strong tobacco control policy as well as support from both government and local authorities as the top priority and strategy to overcome the socio-political environment that supports tobacco use (Bary-Weisberg et al., 2019; Jung et al., 2018). Additionally, providing tobacco cessation services or treatment options (such as via text message or telephone, quit line, medication options, formal counseling, or other necessary supports or motivational counseling) were vital for tobacco cessation program success.

While in TTM, it was identified that quit-unassisted was among the popular strategy chosen (72%), used at least one pharmacological method (26%), and 7% used at least one nonpharmacological method (Bary-Weisberg et al., 2019; Chen at al., 2016; Soulakova & Crockett, 2017). Surprisingly, the nicotine patch was the most common and popular medications selected in nicotine replacement therapy followed by vernicle (Chantix), bupropion or Wellbutrin, and nicotine gum or lozenges (Chen et al., 2016; Soulakova & Crockett, 2017).

In conclusion, the high prevalence of tobacco use in the military requires multi-level interventions from top military and civilian leadership to mandate a no tobacco use policy for every service member. Additionally, stopping tobacco sales in military bases, ending tobacco company advertisements in periodicals, and limiting and eventually eliminating designated smoking areas is vital to combat the high prevalence of tobacco use, with the ultimate goal of a tobacco-free military.

Last but not least, the tobacco cessation strategies identified in this study could be beneficial to future tobacco cessation clinicians, scholars, and researchers. This tobacco cessation program could be applied to a larger scale civilian population worldwide, with the ultimate goal of promoting social change and improving community health across the life span.

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