

# Does smoking cessation counseling improve success rates in adult smokers who desire to quit compared to both pharmacologic therapy for cessation and no therapy or counseling?

## Abstract

This research is aimed to answer the question: does smoking cessation counseling (I) improve success rates (O) in adult smokers who desire to quit (P) compared to pharmacologic therapy for cessation and no therapy or counseling (C)? We looked at health-related literature to determine which method of smoking cessation had the highest success rates. In our research we expected to find that success rates were greatest when individuals had a combination of pharmacotherapy in conjunction with counseling. A report of the Surgeon General compiled results of studies reporting the efficacy of numerous cessation therapies and their success. Our research of these and other reports supported our expectation. Medication and counseling both have roles in smoking cessation and have led to higher success rates in smoking individuals. We concluded that patients who wish to quit smoking should try counseling first and, if needed, use pharmacotherapy to aid in smoking cessation as the combination of both therapies has the highest success rate.

## Introduction

Cigarette use is the leading cause of preventable disease and death in the United States, killing more than 480,000 individuals each year (Centers for Disease Control and Prevention, 2021b). The United States spends over \$300 billion dollars each year on smoking related illnesses. Smoking cessation improves health and reduces individuals risk of heart disease, stroke, lung disease, cancer, and other smoking-related illnesses (U.S. Food and Drug Administration, 2017). Treatments that support smoking cessation include behavioral therapies and FDA approved pharmacotherapy. However, fewer than one third of smokers who attempt to quit smoking use proven treatments (Centers for Disease Control and Prevention, 2020). Behavioral therapy helps individuals make long-term changes to behavior to aid in removing tobacco from one's life, while medications can help with physical cravings caused by nicotine addiction (U.S. Department of Veterans Affairs, 2021). Smoking has a major impact on the health of individuals, so this research allowed us to conclude the best ways to improve the success rates of smoking cessation.

## Methods

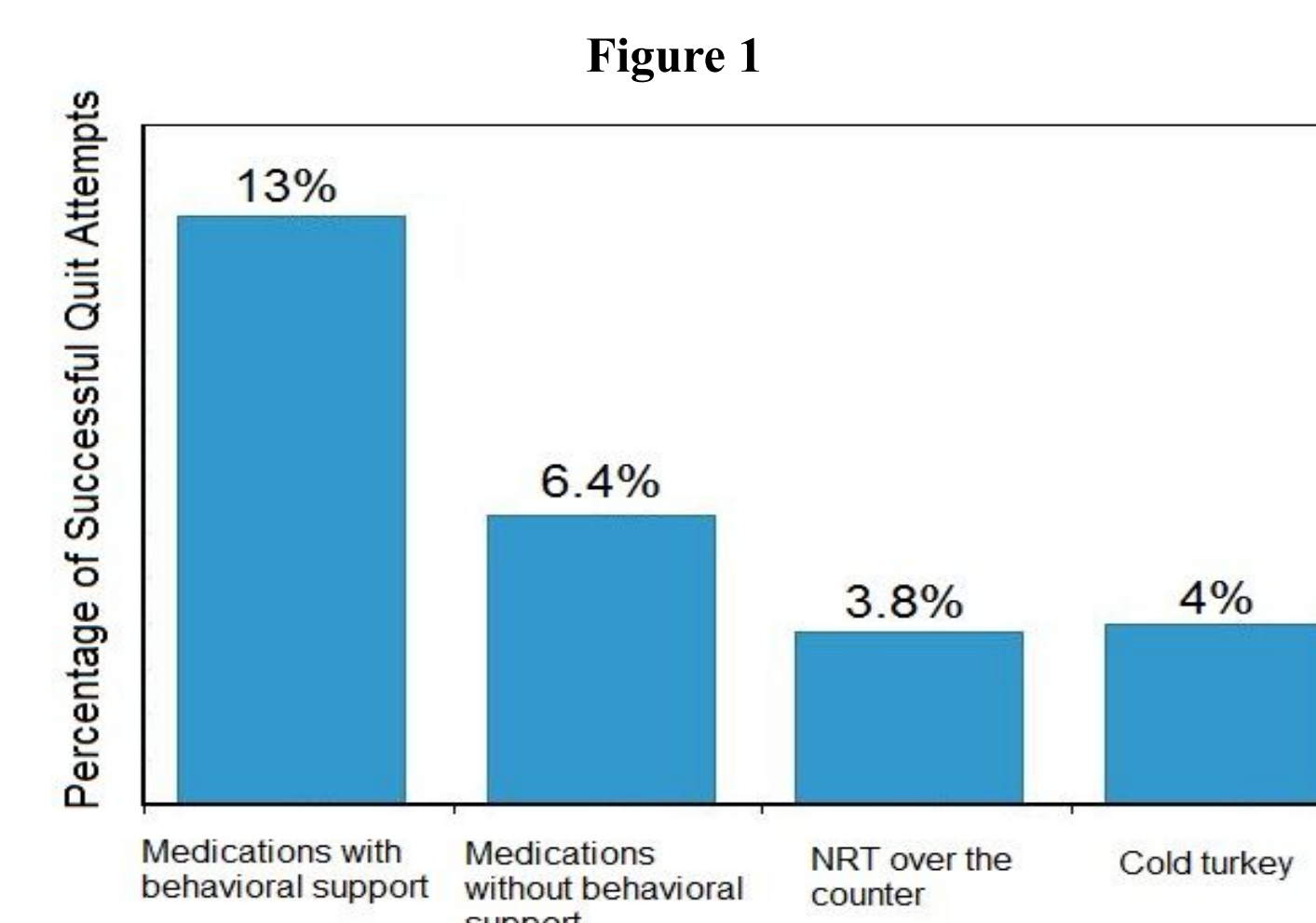
Throughout this project we researched, appraised, and synthesized nursing and health-related literature to determine the success rates of counseling, pharmacological therapy, or no therapy to improve smoking cessation. Articles and reports were chosen based on relevancy and credibility of the sources. The Surgeon General's report is focused on adult cessation of cigarette use which is in line with our desired population. Numerous studies cited in the Surgeon General's report were read by both participating researchers to ensure accurate interpretation of the studies results (U.S. Department of Health and Human Services, 2020). Chosen studies from the report were analyzed for conflicts of interest and the qualifications of the authors, as well as the age of the research. Studies used which were over 5 years old were determined to be relevant based on the scope and source of the study. For example, Figure 1 is pulled from a study sanctioned by the United Kingdom and its methods and therapies are still widely used (Kotz et al., 2013). Additional articles from health related sites were used to support our research findings and held to the same standards.

## Research

Current evidence based treatment for smoking cessation include behavioral therapies and pharmacotherapy (U.S. Department of Health and Human Services, 2020). In 2018, 7.5% of adult smokers had successfully quit smoking within the past year and 61.7% who had ever smoked had quit (Centers for Disease Control and Prevention, 2020). Smokers who attempt to quit without assistance have success rates of seven to eight percent (U.S. Department of Health and Human Services, 2020). Research has shown that the use of FDA approved cessation medications such as Nicotrol can double a smokers chance of quitting (U.S. Food and Drug Administration, 2017). Nicotine is the main substance responsible for causing addiction in these individuals. Nicotine replacement therapy supplies nicotine in small amounts without the other chemicals contained in tobacco products. It is delivered through patches, chewing gum, or lozenges. This therapy can be used for a short time to manage cravings and withdrawal (U.S. Food and Drug Administration, 2017). It provides a lower plasma nicotine concentration when used as intended which reduces the behaviorally reinforcing effect of smoking (U.S. Department of Health and Human Services, 2020). Chantix and Zyban are two cessation products that do not contain nicotine. Chantix acts in the brain to reduce the rewarding effects of nicotine diminishing a smoker's desire to use tobacco products (U.S. Food and Drug Administration, 2017). Other pharmacotherapy options include Bupropion and Varenicline (U.S. Department of Health and Human Services, 2020). Behavioral strategies that have been effective in smoking cessation include cognitive behavioral therapy, motivational interviewing, and acceptance and commitment therapy (U.S. Department of Health and Human Services, 2020). Behavioral therapy is delivered over several weeks with a focus of physiological, psychological, social, and environmental aspects of smoking and dependence. Research has shown that pharmacotherapy and behavioral therapy used alone can increase cessation rates, but a combination of both is most effective (U.S. Department of Health and Human Services, 2020). A review of 27 trials with over 11,000 participants, conducted in 2016, showed that individual counseling can increase the chance of cessation by 40% to 80% (Lancaster & Stead, 2017). 40 studies with 15,000 participants showed there was a significant increase in smoking cessation when pharmacotherapy was combined with behavioral treatment (U.S. Department of Health and Human Services, 2020).

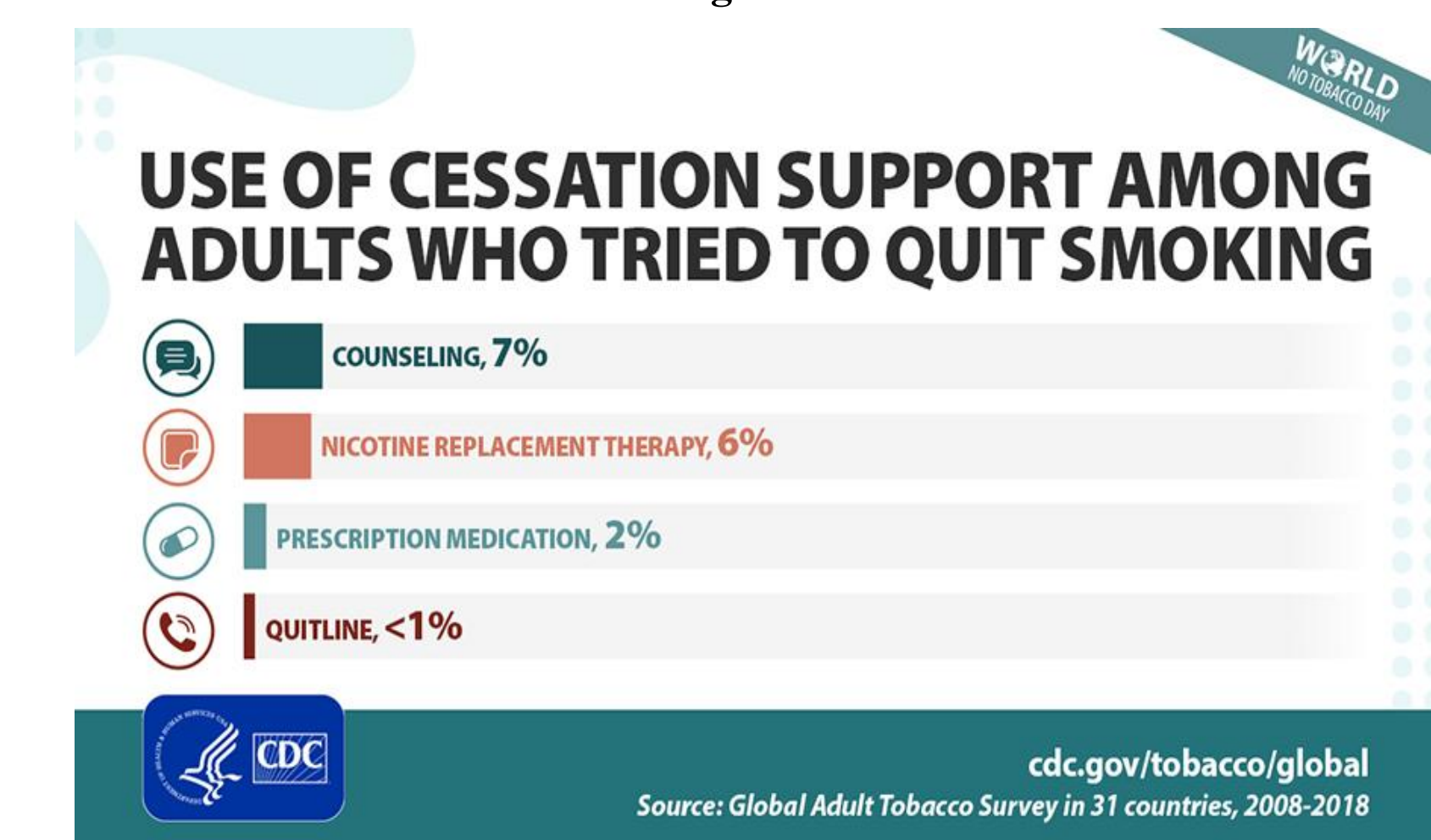
## Results

Through our research we concluded that both pharmacotherapy and counseling have a positive impact on smoking cessation; however, a combination of both has a greater effect (Babb et al., 2017). The evidence indicated that the chances of successfully sustaining smoking cessation and avoiding relapse increases with evidence-based cessation therapies, which is further increased with a higher dose, duration, and intensity of treatment (U.S. Department of Health and Human Services, 2020). Studies which specifically recorded cessation outcomes of pharmacologic therapy, support, and a combination of both found that combining drug and emotional therapy to have dramatic improvements on success rates. A study in England with over 10,000 participants found that psychological and pharmacological therapy combinations could result in over double the success rate compared to single therapy treatments (Kotz et al., 2013). Below shown in Figure 1 is the collected data of this study.



'Real-world' Effectiveness of Smoking Cessation Treatments

Figure 2



Use of Cessation Support Among Adults who Tried to Quit Smoking

## Evaluation and Analysis

We researched this topic because smoking can lead to numerous complications including long term disease, general decrease in health, cancer, and even death. Cessation improves health and reduces individuals' risk of many smoking related illnesses such as lung disease, cancer, and heart disease (U.S. Food and Drug Administration, 2017). Smoking cessation has many other benefits including breathing more easily, increased energy, stress reduction, fertility improvement, smell and taste improvement, and can lead to a longer life (National Health Service, 2018). No matter how long a smoker has used tobacco, cessation has health benefits. We felt that it was important to find evidence in numerous studies as to the most successful cessation methods. Beyond quitting cold turkey and over the counter nicotine replacement, prescription pharmacologic therapy and psychological therapy are the only other prominent methods of cessation. We focused on the objective results of studies comparing these four ubiquitous methods of cessation to draw conclusions.

## Conclusions and Implications for Future Research

Smoking cessation is important for all age groups (Babb et al., 2017). It is important for healthcare providers and nurses to identify smokers, advise them to quit, and offer evidence-based cessation treatments. Unaided quitting often occurs due to inadequate insurance coverage, inadequate promotion of cessation treatments, underfunding of state cessation programs, and inadequate screening in clinical care (U.S. Department of Health and Human Services, 2020). Funding state tobacco control programs, increasing tobacco product prices, implementing smoke-free policies, conducting cessation campaigns, and increasing access to smoking cessation therapy can aid in increasing smoking cessation, and reduce the risk of disease and death (Babb et al., 2017). Education regarding life changes, disease diagnosis, medical procedures, and screening results can motivate patients to smoking cessation (U.S. Department of Health and Human Services, 2020). The use of smoking cessation interventions remains low, so it is important to research and apply evidence-based research to increase the knowledge and use of these therapies (Babb et al. 2017). In the future, research should be conducted to determine which pharmacotherapy has the highest success rates and how to improve smokers knowledge of smoking cessation therapy options. Research into the surprisingly low use of cessation support, as shown in Figure 2, could be done to determine why so few individuals who try to quit smoking utilize existing support structures and cessation products (Centers for Disease Control and Prevention, 2021a). Knowing what cessation techniques are the most effective is of little help if it is not understood how to increase smokers' use of these resources.

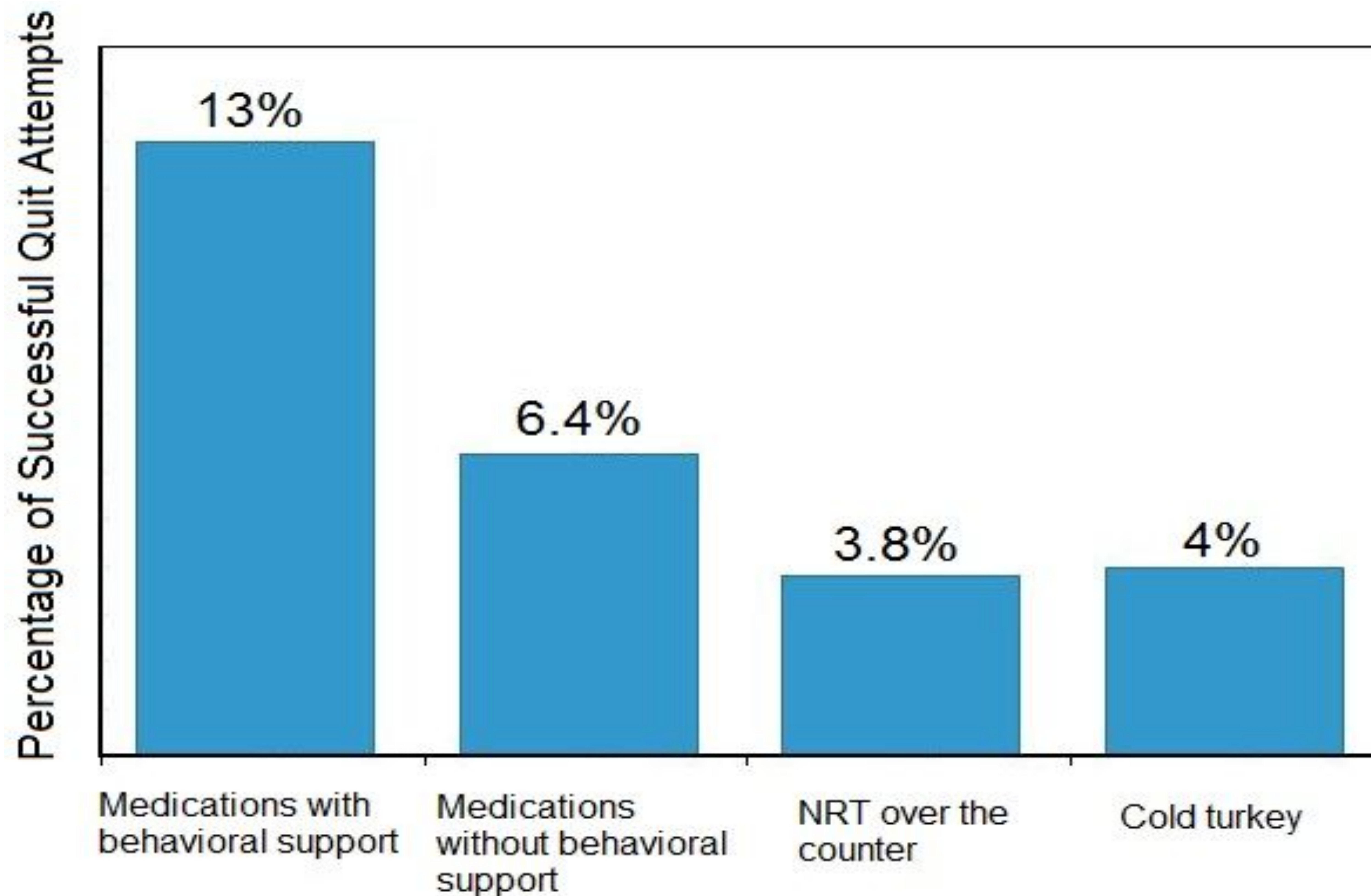
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## Contact:

NURS 360: Introduction to Research and Evidence Based Practice  
madison.pribble@live.longwood.edu  
trevor.leonard@live.longwood.edu

# Figure 1



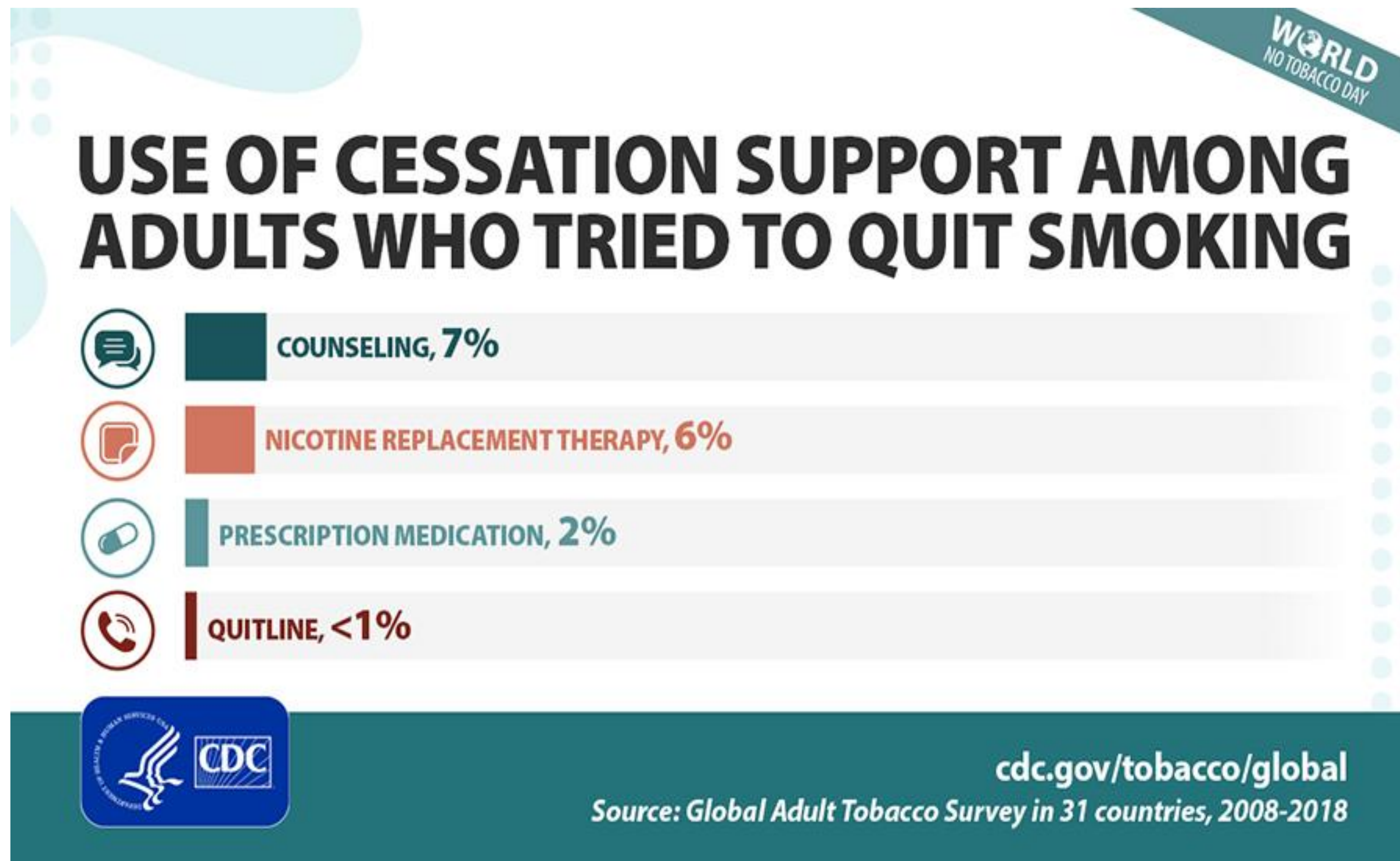
This chart shows the percentage of successful quit attempts for individuals who used medications with behavioral support, medications without behavioral support, over the counter nicotine replacement therapy, and no behavioral or pharmacotherapy support (Kotz et al., 2013). This data was obtained from a study in England of 10,335 participants who had smoked within the previous 12 months and had made at least one quit attempt (Kotz et al., 2013).

## Reference:

Kotz, D., Brown, J., & West, R. (2013). 'Real-world' effectiveness of smoking cessation treatments: A population study. *Addiction*, 109(3), 491–499.

<https://doi.org/10.1111/add.12429>

# Figure 2



In a study of 31 countries between 2008 and 2018, the above graph shows the median percentage of the use of smoking cessation support among adults 15 years of age or older who currently smoked tobacco and had made a quit attempt in the past 12 months (Centers for Disease Control and Prevention, 2021a).

Reference:

Centers for Disease Control and Prevention. (2021a, May 26). *Evidence-based cessation services can help make quit attempts more successful.*

<https://www.cdc.gov/globalhealth/stories/2021/evidence-based-cessation-services-can-help-make-quit-attempts-more-successful.html>.