Research paper on preventing the use of tobacco among youth and young adults

Health & Medicine, Addiction

Mathematics

Abstract

Stopping young people from using tobacco is very important because most of the people who become regular smokers and find other ways to regularly use tobacco start when they are young. Most adult smokers started before the age of 26. Tobacco products are devastating to the human body, causing lowered quality of life and early death. The research concluded that public health messages, especially with television ads were very effective in changing young peoples' attitudes towards using tobacco from positive to negative. The two must useful campaigns showed graphic images of the impact of tobacco on the body and shared facts on second hand smoking. The significance of the entertainment media and the advertising industries is so high this researcher also suggests the regulating those industries. It would be interesting to compare the amount of money spent to encourage smoking and compare it to the amount of money government must spend lead smoking interventions.

According to the Public Health and Human Services in a report from the Surgeon General (2012) the tobaccos use among teens (youth) and young adults an epidemic. Tobacco used by these young people comes in many forms. Some tobacco products are used by inhaling but some are used orally which are products like chewing tobacco, held in the mouth. The media has two opposite ways of influencing citizens when it comes to public health matters. Firstly the commercial media, including, music, movies, and video games, can make tobacco use seem attractive to young people. Secondly, and from the opposite type of influence, public health services are able to

use media to promote good health and prevent tobacco use among teens and young adults. The importance of preventing tobacco use in people when they are young cannot be overstated. The Surgeon General (2012) has reported that about 1/10th of adult smokers began when 18 years old or younger; and very close to 100 percent of adult smokers (approximately (99 percent) started smoking in their mid-twenties.

This research explored the reasons and other factors that make smoking so attractive to young people. A period of time between the years of 1997 and 2003 demonstrated a clearly identifiable period of decreased tobacco use of during those years. The research question has been asked – What may have caused that decrease? Perhaps the use of media for public health make a difference, or perhaps the global tobacco industry started targeting younger people with age-attractive products. The hope is that if tobacco use can decrease over a six year period of time then factors can be identified to decrease tobacco smoking in youth permanently.

Tobacco in terms of youth and young adult usage is defined as cigarettes, cigars, and smokeless tobacco or other methods of inhaling tobacco which leads to nicotine and other toxic substances entering the body for manufacturing or commercial sources.

Research Design

The variables that affect young peopled and their decisions to start using tobacco are various and some are based on independent characteristics of the person. Therefore the following variables have been identified for this particular research.

The independent variable

Youth tobacco use is the independent variable of this research; there is a known value for youth tobacco used that has been recorded in research from many reliable institutions including the American Lung Association (ALA), the Center for Disease Control and Prevention (CDC), the Office of the Surgeon General, Public Health Services in the U. S. Department of Health and Human Services and academic researchers who have published in peer reviewed journals.

The dependent variables

Dependent variables that have been considered in this research are (a) adolescent tobacco-use-behaviors, (b) exposure to tobacco advertising, (c) media exposure to tobacco use, (d) age tobacco use initiated, (e) reasons (when discernible) for starting tobacco use, (f) how much public media influences decision to smoke, (e) how much advertising influences the decision to smoke, (f) the influence of marketing such as free cigarette give-a-ways, (g) influence of knowing health risks, and (h) motivations to stop smoking that have proved to be succesful.

The control variables

Control variables are variable that are unchanging values that are available from published literature such as (a) the amount of risk for poor health in youth due to tobacco exposure, (b) death due to tobacco induced cancer in youth, (c) data on youth tobacco use behaviors from the Centers for Disease Control, (d) data from the Surgeon General, and (e) data from the years 1997-2003 on decline in tobacco use in youth.

Statistical Methods

Statistical methods provide a way to mathematically evaluate data from questionnaires and other measurements to determine the reliability and the validity of the values. This is important in many ways including, in general, the ability to trust the numbers that have been accessed for the study. The data needs to be reproducible and reliable therefore precision and accuracy are the two main mathematical tests used on data. Any values in the data that are determined to be ‘ outliers’ should not be used otherwise the results will be skewed in the direction of the outlier, but the outlier is not considered an accurate value. The precision of data must be evaluated by statistical analysis so that human and/or experimental errors can be determined. Errors lead to values that are not useful in determining the nature of the results and what the results may indicate.

In terms of the tobacco use by youth and young adults’ research it is often important to compare data that has been done between two or more research studies. The ability to combine the datasets from two or more research studies may or may not give results that are usable in finding solutions or reaching the objectives in a study. Therefore t-tests and probability tests are especially important; the research does not want to compare apples and oranges after all, comparable data is the goal. The types of statistical analysis that are helpful especially with public health research are the statistical techniques that determine whether or not data can be grouped together or if the data cannot be realistically compared. Data is in the form of numbers, not apples and oranges so that makes statistical analytical tests critical for a researcher. The analysis of variance

(ANOVA), analysis of covariance (ANCOVA), and 'Statistical Package for the Social Sciences (SPSS) are programs that can be used with a computer or calculator to analyze data. ANCOVA controls for a covariate between the groups so it can be determined whether or not there are any significant differences between the controls and the groups of teens to mid-twenties who started using tobacco during those periods in their lives. In the literature review for the paper most research data used 26 years as the top age for the young adult group but some researchers used 25 years old. SPSS statistical techniques can be used to compare the influence of public media on tobacco use behaviors, impact of advertising and movies, etc. on tobacco use, impact of counter measures on tobacco use (if quantitative data is available) and the percentage of cancer cases attributed to the use of tobacco in young people analyzed by age and gender. The statistical analysis tool SPSS can be used for quantitative evaluations of the impacts on youth and their use of tobacco.

Metzger, Dawes, Mermelstein and Wakschlag (2011) used a self reporting questionnaire which had 1040 participants, mean age (average of all the ages divided by number of participants) was equal to 15. 63 years at the first assessment, 16. 89 at the second assessment (15 months later, and 17. 59 years twenty four months later at the end of the experiment. Of the participants 83 percent had already tried smoking so the researchers identified the group of participants as “ smoking enriched” (Metzger et al., 2011, p. 3). The purpose of their research was to determine the affect of clubs and sports organizations on a student’s tobacco use. The questions were designed to learn about the types of clubs and sports, time spent on

religious activities, amount of participation in team sports with and without a coach, and information about activities such as Scouts, 4-H, music, debating, school committees and other similar activities.

Peer reviewed journals and conference proceedings contain articles on how youth react to intervention programs and what role public media and advertising has played in the interventions. Current literature from the years 2005 to the present was reviewed. The organizations that have the best mathematical results available that are easily accessed include the CDC, ACS and the ALS so they were the main organizations that were used for data. Research funded by any of the three organizations was also easy to access and available in articles, FAQ sheets or data sets.

Results

Significance of the media and public advertising of tobacco have on youth. The commercial media has a very large influence on smoking in the age groups of teens and young adults; the songs, commercials, and images associated with different brands of cigarettes are well-known and cigarette companies give away free t-shirts and other gear to interest young people in their product. (CDC, 2007, p. 32) Therefore the challenge to the public health and school systems, parents and health practitioner groups is big. The use of counter marketing has been successful to some degree. In a national survey from 1999-2000 young people reported that the public health messages they had seen (4 months or less prior to questioning) did help them understand the poor health implications of tobacco and made them consider NOT smoking in the future. (CDC, 2007, p. 33) The American Legacy Foundation

started a program in 2000 called truth® was based on the use of graphic images to discourage tobacco use. The result of the truth® campaign showed “ higher levels of exposure (were) related to lower prevalence of youth smoking” (CDC, 2007, p. 33) The triggers for teens that make them have negative feelings to tobacco are advertisements about the damage second hand smoke causes and how the tobacco industry specifically targets young people so they will start smoking. (CDC, 2012)

Percentage of cancer cases attributed to the use of tobacco in young people.

Unfortunately the sooner a person starts to smoke the more likely they are to die of tobacco related cancer. The American Lung Association reported that 19 percent of girls and 28 percent boys of high school aged youth some form of tobacco at least once a day. (ALA, 2007) Research has proved again and again that “ the first use of tobacco takes place before high school graduation” (ALA, 2007). The use of tobacco is the cause of one out of five deaths so in the United States that means that about 438, 000 people die each year from smoking or oral use of tobacco.(CDC, 1994) Generally the use of tobacco accounts for approximately five and a half million deaths per year in the USA. (ALA, 2007, p. 2)

The American Lung Association reports that 4, 000 children (18 years old and other) experiment with tobacco by smoking their first cigarette or tobacco product. The Surgeon General’s Report (2012) 10 percent of adult smokers started smoking by the age of 18 whereas “ 99 percent started by age 26” (ALA, 2007, p. 2). Of that amount approximately 25 percent (or 1, 000 children) become addicted. To be addicted means that they smoke every

day, regularly; of these children “ about one third of these kids will die prematurely from a smoking related disease” (ALA, 2007, p. 2).

Life expectancy of tobacco smokers

A 30 year old who is a smoker may live another 35 years compared to a 30 year old non-smoker who will probably live 53 or more years. Cigarettes have about 7000 chemicals that are bad for he body. Inhaling a cigarette, holding chewing tobacco in your mouth and breathing second hand smoke are all ways cancer can start in a human body. One pack of cigarettes has been estimated to cause the loss of 25 years of life; when a person smokes one cigarette the loss is 11 minutes; so a carton of cigarettes smoked equals about 36 hours lost and people who smoke one package of cigarettes per day they have lost about 2 months of natural life by the end of 365 days. The CDC reported on data gathered from 2000 to 2004 which showed that the number of high school students who smoked at least once in the 30 days before the questionnaire, increased linearly from freshmen to senior classes. (Appendix D) The results showed that the curve for male and female students (all races included) was very close. (Appendix C) The same report showed that the years of total potential life lost by people who died from tobacco related disease was 3, 112, 914 days for males and in females was 2, 087, 024 days. (Appendix B)

How children and young adults access tobacco products.

Tobacco products include many varieties, not only cigarettes and smokeless (or spit) tobacco. “ Kreteks and bidis” are cigarettes that come in many flavored such as clove flavored cigarettes; these flavored cigarettes are

known as “ trainer” cigarettes because they are most attractive to the younger set of first use practitioners. These cigarettes although banned in the USA since October 2009 are available online and some tobacco companies make flavored cigars to avoid the ban. Kreteks is the word for clove cigarettes and their health risks are the same as regular cigarettes. Indonesian and other southeastern Asian countries are the main producers. the ACS reports that they contain 60 to 70 percent tobacco, 30 to 40 percent ground cloves, small amounts of clove oil plus there are other additives. The kreteks “ deliver more nicotine, carbon monoxide and tar than regular cigarettes” (ALA, 2007). Bidis or beedies are available in candy like flavors, licorice, orange, chocolate, sherry and strawberry, and can be purchased online usually from India. Tendu or temburi tobacco plants are native to the Asia. They contain less tobacco but more nicotine. In fact “ the deliver three to five times more nicotine than regular cigarettes. They are very thin and the person smoking the bidi has up to three times more puffs available before they have been finished. On top of that they are unfiltered. Assuming 3 times more nicotine and three times more inhalations of the cigarette an approximation can be made of 9 times more nicotine injected into the body of the smoker; this is considering the amount at the lower levels of the nicotine amount per bidi. At the highest nicotine concentration the approximation would be as high as 27 percent. On top of these problems the unfiltered design of the bidi makes the bidi an efficient injection tool of nicotine into the developing bodies of young people. A 2010 study cited by the American Lung Association reported that “ 30 percent of the boys and 16 percent of the girls” in the Senior high school class (12th grade) had smoked

small cigars during the past year (ALA, 2007, p. 6). Another way of smoking tobacco is using as narghile or hookah (water pipe). A tobacco mixture called a shisha is made from recipes with ingredients such as “ honey, molasses, or dried fruit.” (ALA, 2007, p 7). The mixture is heated with charcoal, after a smoker inhales; the smoke passes through water before the tobacco reaches the smoker.

Interpretation

The Youth Risk Behavior Survey USA 1991-2009 shows a steady decrease in young people who have tried tobacco, even two puffs of a cigarette. (See Appendix A) The Surgeon General reports that public media ads on television are some of the most useful anti-tobacco use tools. The Center for Disease Control states that although the use of tobacco may have decreased in recent years the problem is still big. The best way to approach anti-smoking media campaigns is to do careful planning for the campaigns’ design. The design should ensure consistency of the message and should be funded for many years. Any interruption in the public media message leads to more experimentation by young people of tobacco products. Industries and businesses who are invested in making a profit from tobacco have found that targeting young people is easy with flavored cigars and by using online sales to reach their young customers. Anyone invested in the health of young people on the national, state and local levels should support giving government funds to stop smoking in young people. The significance of the entertainment media and the advertising industries is so high. This

researcher also suggest regulation of the entertainment media and the advertising industries and more research can be done on that idea.

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Appenices

Appendix A.

Appendix D.