Final Research Paper

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Since 1964, in the United States, the use of tobacco mainly in the form of cigarettes has caused approximately fourteen million premature deaths (Organization, 2017). Cigarette smoking is a leading preventable cause of death in the US, with more than 400,000 former and current smokers dying from smoking-attributable diseases each year. More than 8.7 million Americans are living with serious diseases that are caused by tobacco smoking. It is found in different studies that 50% of all smokers who started smoking in their early teenage years can expect to die from tobacco-related diseases (Gilpin et al., 2017). In the United States, almost one in every five deaths are caused by tobacco smoking. The diseases which are caused by cigarette smoking include cancer of mouth, lungs, kidney, esophagus, stomach and acute myeloid leukemia. Cigarette smoking is also associated with cerebrovascular, respiratory and coronary heart diseases.

Cigarette smoke contains 4800 identified chemicals and almost 250 of which are highly toxic and can cause cancer (Bilano et al., 2015). It is found that 61 chemicals in cigarette smoke cause cancer with hydrocarbon, aromatic amines, and polycyclic aromatic hydrocarbon being the major contributors(Singh, 2016). In the early 1880s, cigarette smoking accounted for only 1% of total tobacco consumed in the United States which increased to 80% and 79% in 1950 and 2006 respectively. Almost 39% of the smoking-attributable deaths are due to cardiovascular diseases, 121,900 deaths are due to ischemic heart diseases and 37% of the deaths are from malignant neoplasm(Arrazola et al., 2015). The global tobacco epidemic surveillance is done by the Global Youth Tobacco Survey and the Global Tobacco Surveillance System.

Consumption of tobacco is a major challenge of the twenty-first century. The death associated with tobacco consumption is increasing, promoting environmental threats and destroying the young generation (Nădăşan et al., 2016). In the twentieth century, tobacco had killed approximately 100 million people and if the current pattern of tobacco use continues then it will lead to more than 1 billion deaths by the end of the twenty-first century. Over the next 20 years, of the total 100 million projected deaths related to tobacco, half of them will be of people between the ages of 35 to 69 years(Rait, Prochaska, & Rubinstein, 2016). Regardless of different tobacco control policies, almost 25% of the individuals under 18 years are using tobacco and 13% are using more than two types of tobacco-containing products (Jamal et al., 2017). There are different impacts (health, peer groups, economics, family and social) on people consuming tobacco and they are at high risk of different diseases. There are many different policies and programs for tobacco control but there is a need for a comprehensive approach for controlling the tobacco epidemic among the youth(Soneji, Sargent, & Tanski, 2016).

 Many developed countries like France, the USA, and the UK have provided strong evidence of the different tobacco control interventions such as mass media campaigns, increase in taxation, reducing treatment costs and ‘telephone quit’ (Ebbert, Elrashidi, & Stead, 2015). Tobacco control can lead to a reduction in premature deaths and will also increase the quality of lives. Tobacco control is becoming the most important component of both international and national programs and policies(Kasza et al., 2017). According to WHO, policies, and programs that focus on diagnosis, treatment, and prevention of tobacco dependence must be an important part of primary health care(Benowitz, 2017). Smoking cessation decreases the chance of stroke, lung cancer, cardiovascular and respiratory diseases. Many different methods have been developed that helps in quitting smoking(Jamal et al., 2017). Different smoking interventions include self-help approach, counseling, psychological intervention and combined pharmacotherapy(Kasza et al., 2017). There is a need to conduct a study to determine the association between peer smoking, parental smoking and tobacco advertising on the current smoking status of an adolescent, smoking initiation among adolescents is not widely studied, therefore, in this study, tobacco smoking among adolescents will be determined. (Organization, 2017). Globally, tobacco products and cigarette smoking are a leading cause of morbidity, mortality and economic losses. Most of the adult smokers initiate smoking in their adolescents. These adolescents later in their life experience serious health problems such as cancer, cardiovascular and respiratory diseases. These are the reasons which make tobacco smoking a major public health problem. Stakeholders, policymakers and experts need to focus on tobacco research among adolescents(Zyphur & Pierides, 2017). This will help in implementing effective intervention programs at the community level.

**Hypothesis Testing**

**Hypothesis #1**

H0= Adolescents whose family members are smokers are not likely to initiate smoking than others

Alternate Hypothesis

Ha = Adolescents whose family members are smokers are more likely to initiate smoking than others

Hypothesis Testing

Univariate logistic regression will be applied to test this hypothesis. If the p-value is less than 0.05 then there is a relationship between adolescent smoking with the family history of smoking. In this case, the null hypothesis will be rejected. If the p-value is greater than 0.05 then it means that there is no relationship between adolescent smoking and family history of smoking. In this case, the null hypothesis will be accepted.

**Hypothesis # 2**

H0= Adolescents who close friends are smokers are not likely to be current smokers than others

Ha = Adolescents who close friends are smokers are more likely to be current smokers than others

Hypothesis Testing

Univariate logistic regression will be applied to test this hypothesis. If the p-value is less than 0.05 then there is a relationship between adolescent smoking with peer smoking. In this case, the null hypothesis will be rejected. If the p-value is greater than 0.05 then it means that there is no relationship between adolescent smoking and peer smoking. In this case, the null hypothesis will be accepted

**Hypothesis # 3**

H0= There is no association between exposure to tobacco marketing and current smoking status of adolescents

Ha = There is an association between exposure to tobacco marketing and current smoking status of adolescents

Hypothesis-testing

A chi-square test will be used to test this hypothesis. If the p-value is greater than 0.05 then it means that there is no association between exposure to tobacco marketing and the current smoking status of adolescents. In this case, the null hypothesis will be accepted. If the p-value is less than 0.05 then it means that there is an association between exposure to tobacco marketing and the current smoking status of adolescents. In this case, the null hypothesis will be rejected and the alternate hypothesis will be accepted (Park, 2019).

**Ethics in Tobacco Research**

The tobacco research will produce significant benefits at both individual and community levels. Although tobacco control research has lots of benefits to society, there are some ethical dilemmas and challenges that arose during the research survey. Most of the research on tobacco is based on the research principles i.e. autonomy (respect of the participants), justice and beneficence as reported by the Helsinki Declaration (1964) and Belmont Report (1979). These principles of ethics are easy to explain in a research proposal but how practically apply is a great concern for the researcher such as when focus group discussion and cross-sectional study are conducted to determine the prevalence of tobacco smoking among adolescents, then it is a researcher duty to counsel smokers about the hazardous effect of smoking because tobacco smoking causes respiratory problems heart diseases and cancer. It creates an economic burden on the individual and society. Most of the researchers fail to guide participants about the adverse effect of smoking as they believe that their purpose is only to collect data and publish research papers. This is unethical as most of the researchers fail to support tobacco control programs. Researchers should support intervention programs to prevent the initiation of smoking among adolescents(Nusbaum, Douglas, Damus, Paasche-Orlow, & Estrella-Luna, 2017).

Secondly, when the research on tobacco is to be conducted among adolescents who are below 19 years of age, then the researchers should use both consent and assent form. Researchers should take permission from the parents and then from participants. The researcher must explain the purpose of the research very clearly otherwise there will be an issue of collecting reliable data. In tobacco research, if the parents know that their children are smoking then they express their anger or feel very bad about their children (Hammersley & Traianou, 2017). This is a reason due to which smokers' children are usually skeptical about their enumerators. Thus there is an ethical concern for most of the researchers to decide whether to recruit local enumerators or not. If parents permit their children to participate in research, then also adolescent smoker does not want to reveal their habits of smoking. In this case, the researcher has to respect the participant’s dignity. Therefore, it is difficult for the researcher to collect data on the smoking habits of the adolescent from face to face interviews. In this case, self-administered interviews can prove to be a very good alternative.

Thirdly, researchers are responsible to maintain the data confidentiality. While researchers have to implement the tobacco control intervention program, therefore in this case maintaining confidentiality can be a great ethical challenge. In this case, researchers have to inform the parents about the smoking status of children(Alahmad, Al Jumah, & Dierickx, 2015).

Fourthly, in tobacco research, adolescents are voluntary participants and it is a responsibility of researchers to respect the time given by the participants. In this, there is an ethical concern about whether to provide remuneration to research participants. There is a great probability that participants can utilize the remuneration for buying cigarettes. Therefore, instead of giving cash, stationery items like pencils, pen or books should be given to participants(Hammersley & Traianou, 2017). The ethical review board has an important role in research related to tobacco. The ethical review board has authority for the disapproval and modification of the research proposal if guidelines are not followed properly.

**Funding**

**Name of Grant**

 CDC- RFA-DP19-1904 technical assistance to increase tobacco cessation.

**Description**

The center for disease control has announced a funding opportunity for tobacco cessation. It is related to tobacco cessation programs to promote health and changes in healthcare systems. It is meant for the support and assistance to sustain and implement community-based cessation. The program will facilitate adults to quit smoking and sustain good health. The program will create awareness among individuals and communities through education and support to the tobacco cessation program. The program will enhance education and promote interventions that will ultimately help communities to reach sustainable developmental goals.

**Eligibility**

Participants or individual corporations are considered eligible if they are declared eligible by law for the grant, any entity ineligible for the grant under law or any individual entity suspended for the grant within a specific time.

**Amount in Dollars**

Not available

**Web address**

<https://www.cdc.gov/tobacco/about/foa/increase-tobacco-cessation-nofo/index.html>

**Title of Grant Proposal**

 Effectiveness of technical assistance in smoking cessation among adolescents

**Funding source #2**

Name of Grant: National State-Based Program

**Description**

The program is announced for the operation and assessment of evidence-based environmental, policy and system interferences to decrease tobacco use. The program has been initiated to remove health disparities regarding tobacco control in states to reduce death, disabilities, and diseases related to tobacco use. The program is associated with domestic level nonresearch based organizations to initiate tobacco control activities in different states. The program is meant to stop tobacco use among adults and to reduce health-related diseases particularly caused by tobacco use.

**Eligibility**

The funds would be available for the non-research based entities working in tobacco control departments. Eligible organizations would be national state base tobacco control programs, CDC-RFA-DP15-1509. The state-level and districts of health departments of Columbia and their bona fide agents would be considered eligible for the funds.

**Amount in Dollars**

Not available

**Web address**

<https://www.cdc.gov/tobacco/about/foa/state-based-nofo/index.htm>

**Title of Grant Proposal**

Evidence-based strategies to reduce the prevalence of tobacco smoking among adolescents

**Funding #3**

**Name of Grant**

 Public Health approaches for ensuring quitline capacity

**Description**

Centers for disease control and prevention has announced supplementary funds of a fiscal year to ensure quitting capacity related to tobacco use. The program is meant for those working in counseling services for individuals to ensure quitting. The campaigns will expand and implement policies that will ultimately ensure participation, identification, sustainability, operation, and promotion of smoking cessation. The programs will provide funds to organizations for the promotion of health system changes that will ensure approaches to reduce tobacco use.

**Eligibility**

The funding opportunity will be provided under CDC-RFA-DP14-14105 supplement for ensuring quitline capacity approaches.

**Amount in Dollars**

Not available

**Web address**

<https://www.cdc.gov/tobacco/about/foa/quitline-capacity-cont/index.htm>

**Grant title for the proposal**

 Effectiveness of smoking cessation intervention among adolescents.

**Funding Source# 4**

**Name of Grant**

 Tobacco Prevention Program funding

**Description**

Smoking cessation with the support of the CDC is strongly favored and supported by the American Lung Association. The program is meant to prevent long-term tobacco control among communities. Tobacco control programs at the state level would prevent deaths related to tobacco use and thousands of illnesses would be prevented with the support of this program.

**Eligibility**

The states and organizations eligible for the funds would be the same as declared by centers for disease control. The organizations and entities declared restricted for the funding agencies would not be provided funds through this program.

**Amount in dollars**

$ 27.5 billion from tobacco settlement reimbursement and taxes collected over the year.

**Web address**

<https://www.lung.org/our-initiatives/tobacco/cessation-and-prevention/tobacco-prevention-program-funding.html>

**Title of Grant proposal**

 Prevalence of tobacco smoking among adolescents

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