Determination of Prevalance and Factors Influencing Tobacco Use Among Tanzanian Adults for the Year 2018

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Summary

This research study focuses on understanding the prevalence and widespread of tobacco and factors contributing to it use. Secondary data from Global Adults Tobacco Survey from Tanzania for the year 2018 was used to analyze key factors associated with tobacco use in relation to demographic data, providing latest insights into causes behind tobacco consumption. Through statistical analysis this research highlights how aspects such as media exposure, gender and media awareness impacts tobacco us. The findings are intended to help policymakers, health professional and researchers design targeted interventions to reduce tobacco-related harm in the population.

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Introduction
Background Study

Over decades, tobacco use has been a leading cause of preventable health conditions, contributing significantly to the global burden of non-communicable diseases such as high blood pressure, stroke, and other serious health issue (The Lancet, (2021)). Since then, Governments and non-governmental organizations (NGOs) have waged an ongoing battle against tobacco-use among adults, who are at a particular risk of developing these life-threatening conditions. The association between tobacco use and these preventable health conditions has become a primary concern for various stakeholders, as the premature deaths resulting from tobacco-related diseases continue to rise, despite being largely avoidable [1].

Recognizing the severity of the issue, governments and stakeholders have joined forces to combat tobacco use among adults. Legislations have been enacted globally to prohibit smoking in public places, banning on all forms of tobacco advertising through media channels such as newspapers, billboards, and social media, and restriction on the sale of tobacco products to individuals under the age of 18. Despite these well-intentioned initiatives, tobacco use among adults, particularly males, continues to rise. Additionally, the number of deaths attributed to tobacco-use has escalated at alarming rates over the years [2]. Globally tobacco takes lives of over 8 million people

including non-smokers of about 1.3 million (Institute of Health Metrics; 2019), mostly these people belong to the middle- and low-income households of which tobacco-use also impacts their economic well-being as most of income that could be used to purchase important products for their basic needs is now being spend on Purchasing Tobacco as its very addictive hence it takes more than just effort to cease it successfully.

Extensive researches have been conducted on tobacco use over the past few decades, these studies have primarily focused only on the effects, causes, and consequences of tobacco consumption and these researches have provided valuable insights that aided governments in formulating new legislations to control tobacco use. But there is only marginal reduction in tobacco use despite implementation of these legislations, and the number of tobacco-related deaths is estimated to increase. This trend highlights a significant gap in our understanding of how tobacco use impacts communities on a broader scale.

Therefore, this study aims to address this gap by determining the prevalence of tobacco use among adults and identifying the factors influencing tobacco consumption. By providing new, comprehensive data on tobacco use, this research seeks to offer insights that could help in crafting more effective strategies to reduce tobacco use and its associated health impacts.

Problem Statement

Despite ongoing efforts to decrease tobacco use among adults in Tanzania, there remains a substantial lack of understanding regarding the impact of media, knowledge, attitudes, and perceptions on tobacco consumption. The prevalence of tobacco use poses significant public health challenges, contributing to a range of diseases and economic burdens. This study aims to examine how these factors influence tobacco use patterns, providing valuable insights that could inform effective interventions and strengthen tobacco control policies in the country. By identifying the key determinants, this research seeks to support targeted strategies that can reduce tobacco-related harm and promote healthier lifestyles among Tanzanian adults.

Objectives

- To determine the prevalence of tobacco smoking among adults in Tanzania.
- To determine the association between tobacco smoking and media advertisement among adults in Tanzania.
- To Examine association between tobacco smoking and individuals' knowledge, attitude and perception about tobacco smoking in Tanzania
- To Assess association of Tobacco use and awareness about health complications related to Tobacco use

Research Questions

- What is the Prevalence of Tobacco Smoking among adults in Tanzania?
- Is there association between Tobacco use and Media advertisement?
- How frequently Tanzanian adults who smoke Tobacco report being exposed to Tobacco advertisement?
- Is there association between Tobacco use and awareness of health complications related to tobacco use?

Significance

Tobacco is among leading causes of preventable diseases and deaths in Tanzania, understanding factors influencing it use among adults can help in curbing public health problems, providing updated data which will help in curbing a gap in literature and knowledge regarding tobacco use in Tanzania. Also, Findings from this study will aid in designing and implementation of effective health policies and interventions aimed at reducing tobacco use and it associated health risks in Tanzania.

Justification

There are existing studies on tobacco use but they often lack updated and comprehensive data on the factors influencing tobacco consumption among Tanzanian adults. This study addresses this gap by providing current and relevant insights into the relationship between tobacco use and its influencing factors. Understanding the prevalence of tobacco use and the associated determinants is essential for designing targeted public health interventions. By illuminating these connections, this research aims to support the development of more effective strategies to combat tobacco use and its associated health risks, ultimately contrib

to improved public health outcomes in Tanzania.

Chapter 2
Literature Review
Introduction

Tobacco use remains a significant public health concern globally, with widespread consequences on individual and societal well-being. Chronic obstructive pulmonary disease (COPD) is one of the primary adverse health outcomes associated with tobacco smoking. The literature has clearly established smoking as a major causal factor in the development and progression of this debilitating respiratory condition (Crofton & Bjartveit, 1989; Diaz-Guzman & Mannino, 2014). The burden of tobacco use is staggering, with an estimated 5 million deaths caused by direct tobacco use and over 600,000 deaths due to secondhand smoke exposure annually worldwide (Madani et al., 2018).

Global Impact of Tobacco Use

Tobacco use by adults continues to cripple healthcare systems across poor, developing, and developed countries. This is due to the undeniable fact that the deaths and premature deaths from preventable diseases and medical health conditions associated with tobacco use continue to skyrocket, even though governments and international organizations like the World Health Organization (WHO) and the Centers for Disease Control and Prevention (CDC) are combating tobacco use through various strategic interventions (Reitsma, M.B., et.l (2024)). Governments expenditure in the health care sector have increased over the years but reduction on Tobacco use and associated health complications keep on increasing and worse than that is the fact that scientist make more discoveries that they associate with Tobacco use.

Also, numerous studies and surveys regarding tobacco use often focus on the effects and dangers of tobacco use among adults without thoroughly investigating the factors that influence high tobacco use rates among adults [7]. suggests that there is an expected peak in tobacco use among the age groups 35-44 and 65-74, these age groups are also at high risk of developing health complications even if they are not tobacco users. So, this is a significant burden on government, continental, and global healthcare systems, as they may struggle to meet the demands of maintaining and caring for patients who develop complications associated with tobacco use. Furthermore, global economic growth may suffer, as funds intended for economic development may be diverted to address the effects of tobacco use.

Whether a country is developed, developing, poor or middle-income country, the effects of Tobacco-use crimple and negatively impacts the whole health care system and this goes to the extent of affecting economic lifestyle of it people because tobacco is addictive and people from different household spend huge sums of money every day on purchasing tobacco products instead of improving their lifestyle. Due to this fact Tobacco use is issue of urgency because it effects can bring the whole country to it knees if decisive measures are not taken well on time to combat it use especially among adults.

Gaps in Existing Research

Most existing research on tobacco use emphasizes its negative health impacts, including it association with lung cancer, stroke, high blood pressure, and brain tumors in both males and females. This focus has helped organizations and governments around the globe to formulate legislation and raise awareness about the health risks of tobacco use (Yingst, J.M., Krebs, (2020)). However, these studies often neglect to address the underlying factors that drive communities to engage in tobacco use. Also, understanding these factors is crucial for reducing tobacco use rates among adults, as these influences act as the driving forces behind tobacco consumption. The failure to address these root causes is a key reason why WHO and other organizations often fall short of their tobacco reduction targets.

Challenges in Combating Tobacco Use

Globally, tobacco remains one of the leading causes of premature deaths across all continents. Governments and non-governmental organizations continue to coordinate efforts to combat the devastating consequences of tobacco use, including the prohibition of tobacco advertising on television, in newspapers, and on billboards, as well as legislation that prohibits the sale of tobacco products to individuals under the age of 18 [11].

While these strategies have been somewhat effective in reducing tobacco use among adults, tobacco manufacturers have found ways to circumvent these measures

and continue to market their products. Additionally, factors influencing tobacco use are evolving, and there is a lack of updated data to help governments address these new challenges

And despite undeniable fact that tobacco use is being a significant factor in premature deaths, it economic impacts can plunge populations into unbearable health consequences, existing research has not fully explored the psychological effects of tobacco use on individuals.

Tobacco Use in Africa

Tobacco use continues to wreak havoc on African communities, where it is a leading cause of preventable deaths across the continent. Developing and middle-income countries invest significant portions of their Gross Domestic Product (GDP) towards mitigating the impacts of tobacco use. This is especially concerning given that [13] indicates tobacco use accounts for 6 million deaths annually, a figure that could be significantly reduced if comprehensive strategies were in place to target the factors influencing tobacco use.

[13] highlights the ongoing concerns surrounding tobacco use in Africa, noting its association with preventable health complications such as lung cancer, stroke, and high blood pressure. The research points financial strain on governments, which must allocate substantial resources to managing and controlling these complications. However, the study fails to consider the broader economic implications, particularly the challenge of sustaining healthcare systems in African countries with limited financial resources.

Although there has been some progress in reducing tobacco use among adults in certain African countries, the effects and consequences of tobacco use are still deeply felt by governments. Cardiovascular diseases, respiratory diseases, and other health issues linked to tobacco use continue to burden populations. So, until African governments invest in understanding the factors that truly influence communities to engage in tobacco use, the prevalence of tobacco use across the continent will remain high and It will become increasingly difficult to manage severe consequences of tobacco use, particularly as tobacco consumption among females has detrimental effects on reproductive health.

Tobacco Use in Tanzania

The United Republic of Tanzania is a major exporter of tobacco, and despite regulations restricting its use among certain age groups, tobacco produced for export is increasingly consumed by locals. Hence Tobacco use remains a central issue in mainland Tanzania, with a higher prevalence among males compared to females [12].

Despite various government initiatives to control tobacco use among the population, these efforts often fall short of their targets and projections for tobacco cessation, indicating that people continue to engage in tobacco use.

The Tanzanian government has passed legislation prohibiting any form of tobacco advertising through media channels such as newspapers, radio, television, and billboards, aiming to reduce exposure to tobacco products. However, despite these strong initiatives, tobacco continues to cause premature deaths from preventable health complications that have surged over the past five years. This presents a significant burden on the Tanzanian government, as it is responsible for covering the medical expenses of citizens suffering from these complications.

Conclusion

Existing researches on tobacco use primarily focuses on patterns, trends, prevalence, and the health effects of tobacco use, without revealing specific factors that encourage adults to engage in tobacco use. Non-governmental organizations often develop strategies based solely on prevalence data, without understanding the underlying influences driving tobacco consumption. This study aims to address this crucial gap by providing comprehensive data that can inform governments' efforts to combat tobacco use more effectively.

Chapter 3
Methodology
Introduction

Dataset from Global Adult Tobacco Survey (GATS) was used for analysis in order to determine prevalence and factors influencing tobacco use among adults in Tanzania, it is processed and cleaned using Python. Different Analytical approaches were used to extensively clean and obtain accurate results. All Ethical factors were considered in order to prohibit release of sensitive information of participants without their concern

Study Design
This study employed a quantitative research design, utilizing secondary data to determine the prevalence and factors influencing tobacco use among Tanzanian adults in the year 2018. The approach is descriptive and analytical, aimed at providing a comprehensive understanding of the patterns and determinants of tobacco use within the target population.

Data Source
The study utilized secondary data obtained from the Global Adult Tobacco Survey (GATS) conducted in Tanzania in 2018. GATS is a nationally representative survey that provides data on tobacco use among adults aged 15 years and above. The dataset includes information on various factors such as demographic characteristics, smoking behavior, exposure to secondhand smoke, and attitudes towards tobacco use and cessation.

Sample Size and Sampling Approach
A total of 4 976 households were sampled for GATS (Global Adults Tobacco Survey), with a total of 4 797 individuals being successfully interviewed and the data for this study was based on GATS for relevant information as this study uses a secondary data. The GATS dataset includes a large, nationally representative sample of Tanzanian adults. The sampling method employed in the survey was multi-stage stratified sampling, which ensures that the sample is representative of the entire adult population of Tanzania.

Study Site
This study was conducted in United Republic of Tanzania for adults who are 15 years and old, the study will determine prevalence and factors influencing tobacco-use among adults for the year 2018 Utilizing data from Global Adults Tobacco Survey from Tanzania.

Data Collection Approach
Dataset for Global Adult Tobacco Survey was obtained through interviewing adults of 15 years old above, this survey covered variety of areas such as Tobacco use and exposure, economic indicators, advertising and promotion, knowledge attitude and perception towards tobacco use. For successfully interviewing 4 797 as a representation of the Whole population a Multi-Stage stratified design was effectively used to obtain a dataset.

Data Analysis
Data analysis was conducted using statistical software Python. The analysis involved:

Descriptive Statistics: Descriptive statistics was used to summarize the demographic characteristics of the respondents and the prevalence of tobacco use among Tanzanian adults. This included the calculation of frequencies, percentages, means, and standard deviations.

Bivariate Analysis: Bivariate analysis was conducted to examine the association between tobacco use and various socio demographic factors such as age, gender, education level, and income. Chi-square tests were used for categorical variables, t-tests and ANOVA were employed for continuous variables.

Multivariate Analysis: Logistic regression analysis was performed to identify the key factors influencing tobacco use among Tanzanian adults. The dependent variable was tobacco use (coded as 0 = non-user, 1 = user), and the independent variables included demographic and socioeconomic factors. The results will be presented as odds ratios with 95% confidence intervals.

Ethical Considerations
Since the study utilizes secondary data, there are minimal ethical concerns. However, and the data was handled with confidentiality. No personal identifiers were included in the analysis, ensuring that the privacy of respondents is maintained.

Limitations
The study was limited by its reliance on secondary data, which means that as a researcher I was constrained by the variables included in the GATS survey. Additionally, the cross-sectional nature of the data limits the ability to infer causality between the identified factors and tobacco use.

This methodology provides a systematic approach to understanding the prevalence and factors influencing tobacco use among Tanzanian adults in 2018, utilizing the strengths of existing, nationally representative data.

Chapter 4
Data Analysis and Results Presentation
Objective 1:
To determine the prevalence of tobacco smoking among Tanzanian adults by sex

Sex:	Tobacco users	Non-Tobacco users	
Males	16.11%	83.89%	100
Females	1.25%	98.75	100
Totals	17.36%	182.65%	200

Contingency table indicates that 16.11% of males are Tobacco smokers, compared to 1.25% of females. Within Tanzanian adults Tobacco use is considerably high among males than in females in this sample population.

Objective 2:
To determine the association between tobacco smoking and media advertisement among adults in Tanzania.

P-value= 0.9360
Chi-square=0.0064

The p-value is 0.9360, which exceeds the standard threshold of 0.05. This suggests that there is no statistically significant relationship between tobacco use and media advertising. This conclusion is further supported by a Chi-square statistic of 0.0064, indicating a very weak correlation between tobacco use and media advertising.

These findings imply that media advertising has minimal influence on individuals' smoking behavior.

Objective 3
To determine Association between Tobacco-smoking and individual's knowledge, attitude and perception about Tobacco Smoking.

P-value= 0.003
Chi-square= 13.0979

Obtained P-value of 0.003 is less than standard threshold level of 0.05 providing enough evidence that there is statistically significance association between individual's knowledge, attitude and perception about tobacco-smoking. This association shows that individual's knowledge, attitude and perception about Tobacco-smoking can have influence on their tobacco-use.

Objective 4
To assess association of Tobacco use and awareness about health complications related to Tobacco use.

P-value= 0.0262
Chi-square statistic=7.5422

The obtained p-value for assessing the association between tobacco use and awareness of health complications related to tobacco is 0.0262, which is below the standard threshold of 0.05. This indicates a statistically significance association between tobacco use and awareness about health complications related to it. Specifically, it suggests that individuals who are aware of the health complications linked to tobacco use are less likely to engage in tobacco consumption.

Chapter 5
Discussion

To determine prevalence of tobacco-use among Tanzanian adults by their sex contingency table was used in the analysis and it was determined that, Tobacco use is high among males with a percentage of 16.11% as compared to females who are involved in tobacco use at a rate of 1.25%, together males and females who are involved in tobacco use in Tanzania make a total of 17.36%. These findings align with previous researches carried out in the African continent highlighting that there is high prevalence of tobacco-use among males and this have been on the uptrend for past decades (World Health Organization, (2022)). This could be attributed to different factors such as cultural norms, perception about tobacco-use or patterns behavior among the community that encourage tobacco-use more in males than in females. Cultural norms like normalizing the use of tobacco-use among males especially at social gathering makes the use of tobacco among Tanzania adults as an accepted norm, other factors like peer pressure, media advertisement, awareness of health complications related to tobacco use, knowledge and perception of tobacco use have an impact on the prevalence of Tobacco use among target population. The current research across the African Continent on the prevalence of tobacco-use indicated an uptrend of tobacco-use among males as compared to females (James P. B, (2018)), Males use tobacco at a rate of 15.9% while females are at rate of 2.7% and this has been a central issue which need further investigation into studying patterns behavior of males that influence their tobacco use.

P-value and chi-square statistic were used to determine if there is association between tobacco-smoking and media advertisement. Obtained p-value is 0.9360 which indicate that there is no statistically significance association between Tobacco-use and media advertisement, this indicate that media advertisement has little impact on the behavior of individuals in regards to their use of Tobacco, and the channels that are used to distribute advertisement may not be accessible to individuals within my target population.

Many researches have shown that media advertisement has effect on individual's behavior in regards to their tobacco-use (Donaldson, S.I., (2022)). However: Results obtained from my Research study show no significant association between Media advertisement and Tobacco use suggesting that factors like cultural, economic, social have more dominant role in influencing smoking behavior within Tanzanian adults, also, Tanzanian adults are less responsive to media advertisement regarding tobacco-smoking as compared to other studies which indicate that their target populations are responsive to media advertisement. Also, media exposure alone is not sufficient to deter people from smoking.

To determine association between Tobacco-use and individual's knowledge attitude and perception about tobacco smoking p-value and chi-square statistic were used. Obtained P-value for determining this association was 0.003 which is below significance level of 0.05 indicating that there is statistical significance between individual's knowledge, attitude and perception about tobacco-smoking. This shows that individual's perception attitude and knowledge impact how they use Tobacco. Also, this is consistent with previous studies that focused on individual.

Knowledge attitude and perception in relation to tobacco-use and this further support the idea that improving individual awareness and changing their attitude about tobacco-use are key strategies in reducing smoking prevalence. Recently a research study in Brazil emphasized the importance of including individual's knowledge and perception when crafting measures and strategies when encouraging tobacco-cessation which indicate that people understanding and how they pervasive tobacco can have influence on whether they use it or not (da Silva Leonel, A.C.L., (2021)).

The p-value for determining association between Tobacco-use and awareness of health complications related to Tobacco use is 0.0262 with a chi-square statistic of 7.5422. P-value indicate that there is statistical significance association between tobacco-use and awareness of health complications related to tobacco-use this is because the value of p-value is below a standard statistical threshold of 0.05. Indicating that Individuals with

greater awareness of health complications related to tobacco-use are more likely to avoid or cease smoking and understanding the Severity of health complications may not be fully understood by some individuals who continue smoking and further indicating that Population is influenced by availability of information. A recent research study by (Shanmugasundaram, K., 2019.) highlighted that individuals who are aware of irreversible health complications related to tobacco-use have more chances of ceasing the use of Tobacco.

Chapter 6
Conclusion and Recommendations

Conclusion

This research study was able to determine that prevalence of tobacco smoking is high among Tanzanian male's adults as compared to females and there is statistical association between tobacco use and knowledge attitude and perception. Also, statistical association was determined between Tobacco use and awareness of health complications related to Tobacco use. As a result, it will be very beneficial to Incorporate Health Complications into Smoking cessation and

Develop targeted Educational Programs when raising awareness about the dangers of tobacco smoking in Tanzania because this study determined that there is statistical association between tobacco use and awareness of health complications related to tobacco-use. However, this research contradicts existing researches on association of tobacco use and media advertisement and this is being that target population for this research is less responsive to media advertisements and more investigations are needed into social influences like cultural and peer pressure.

Recommendations
- Enhance Education Campaigns:
- Target Attitude Shifts through Social Influence
- Encourage Smoking Cessation Based on Knowledge and Perception
- Strengthen Health Awareness Campaigns
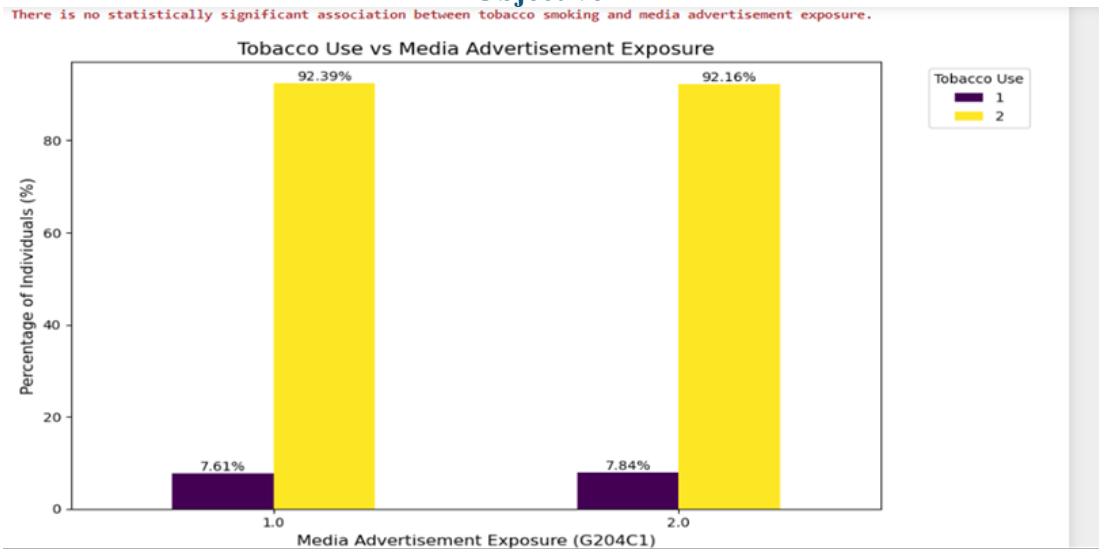- Incorporate Health Complication Awareness into Smoking Cessation Programs

Appendix
Objective 1
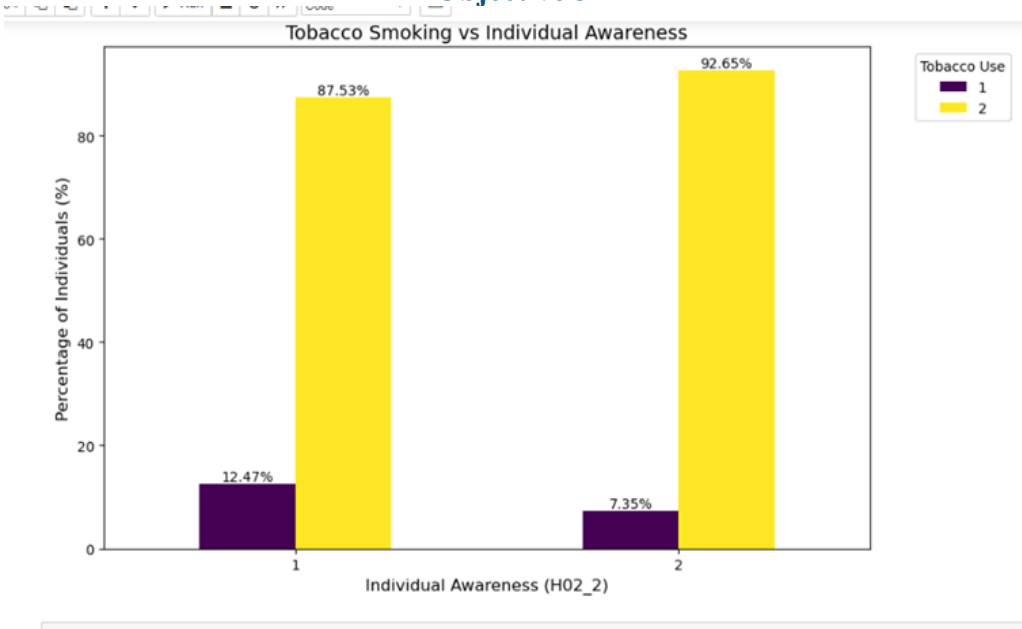
Prevalence of Tobacco Smoking among Adults by Sex (%)

	Tobacco_Use	Non-Tobacco_Use	Total
Male	16.110000	83.890000	100.000000
Female	1.250000	98.750000	100.000000
Total	17.360000	182.640000	200.000000

Objective 2

There is no statistically significant association between tobacco smoking and media advertisement exposure.

Objective 3

Objective 4

Percentage of Tobacco Use by Awareness of Health Complications Related to Tobacco Use

	Daily	Not at All	Total
Yes	7.510000	92.490000	100.000000
No	11.760000	88.240000	100.000000
Don't Know	11.550000	88.450000	100.000000
Total	30.830000	269.170000	300.000000

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