



Daffodil
International
University

**PREVALENCE OF SMOKING IN YOUNGER ADULT MEN IN
BANGLADESH
A PROJECT REPORT**

BY

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Submitted to the Department of Nutrition and Food Engineering in the partial fulfillment
of B.Sc. in Nutrition and Food Engineering

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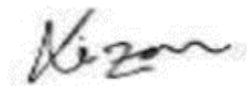
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APPROVAL

This Project titled “Prevalence of smoking in younger adult men in Bangladesh”, submitted by Brohmmanda Saha to the Department of Nutrition and Food Engineering, Daffodil International University, has been accepted as satisfactory for the partial fulfillment of the requirements for the degree of B.Sc. in Nutrition and Food Engineering and approved as to its style and contents. The presentation has been held on

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DECLARATION

We hereby declare that, this project has been done by us under the supervision of **Dr. Nizam Uddin Associate Professor & Head Department of NFE**, Daffodil International University. We also declare that neither this project nor any part of this project has been submitted elsewhere for award of any degree or diploma.

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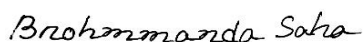
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ABSTRACT

This study looks at the things that lead a group of young adult men in Bangladesh to smoke. We found that an alarming 74.4% of people were current smokers and 15.9% were former smokers. This is a very worrisome rate of smoking. A thorough questionnaire with 28 basic questions was given to people to find out how much they smoked. These shocking numbers show how important it is for Bangladesh's leaders and public health experts to act quickly. This study also shows that smokers are more likely to get a number of health problems, such as high blood pressure, diabetes, and lung diseases. The main goal of this study is to find out what percentage of men in this age group smoke. In addition to the obvious effects on the lungs, a lot of users said they had pain and changes in their weight. The study found that most smokers in this age group are between the ages of 18 and 30, and that they have been smoking on average for between 5 and 10 years. Bangladesh needs to take action right away to stop young adult men from smoking through preventative measures, educational efforts, and individualized anti-smoking programs. By looking at the long-term and short-term health effects of smoking, we can make big steps toward lowering the number of people who smoke and better public health across the country.

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CHAPTER 1

INTRODUCTION

1.1 Background:

The act of smoking is subject to the influence of various factors, such as socio-demographic attributes, cultural conventions, and personal lifestyle preferences. Recent findings indicate that nutrition exerts a noteworthy influence on the patterns, onset, and discontinuation of tobacco use [13]. The susceptibility to smoking and the efficacy of smoking cessation interventions may be influenced by various nutritional factors, including dietary patterns, nutrient inadequacies, and body composition. It is imperative to comprehend the correlation between nutrition and smoking among younger adult males in Bangladesh to devise specific interventions aimed at mitigating smoking prevalence and fostering healthier lifestyles [12].

The nation of Bangladesh, located in South Asia and characterized by high population density, confronts a significant challenge in the form of tobacco consumption. The consumption of tobacco, predominantly through smoking, is a widespread practice that impacts individuals across diverse age ranges and genders. Younger adult men are especially vulnerable to this phenomenon, owing to various social, cultural, and economic factors [15]. It is imperative to comprehend the frequency of smoking within this demographic in order to execute efficacious measures for regulating tobacco use. The Framework Convention on Tobacco Control (FCTC), established by the World Health Organization, is regarded as the first global public health treaty. Its primary objective is to encourage governments to implement all-encompassing measures to reduce tobacco consumption. On June 16, 2003, Bangladesh appended its signature to the Framework Convention on Tobacco Control (FCTC) and subsequently ratified it within a year on June 14, 2004 [16]. The involvement of Bangladesh in the Framework Convention on Tobacco Control (FCTC) has led to certain developments in the realm of tobacco control policy, with the most significant being the enactment of the Smoking and Tobacco Products Usage (Control) Act of 2005. The 2005 legislation-imposed limitations on smoking in diverse settings, however, exclusive smoke-free premises in Bangladesh encompass solely healthcare and educational facilities (excluding universities), sports

facilities, and taxis. Smoking is prohibited in various establishments such as restaurants, bars, and workplaces, with the exception of specific areas that are designated for smoking [18]. The aforementioned legislation required the implementation of periodic, written cautionary statements occupying 30% of both the anterior and posterior surfaces of cigarette packaging. Ongoing endeavors are being made to enhance these cautionary messages by incorporating more conspicuous, periodically changing visual depictions. Furthermore, the Act prohibits a diverse range of advertising for tobacco products, certain promotional activities, and sponsorships. However, point-of-sale advertising and promotional discounts remain permissible. While Bangladesh does possess a national agency dedicated to tobacco control, achieving the robust and comprehensive policies outlined by the World Health Organization's MPOWER package remains a significant challenge, despite the national objective of tobacco prevention [19].

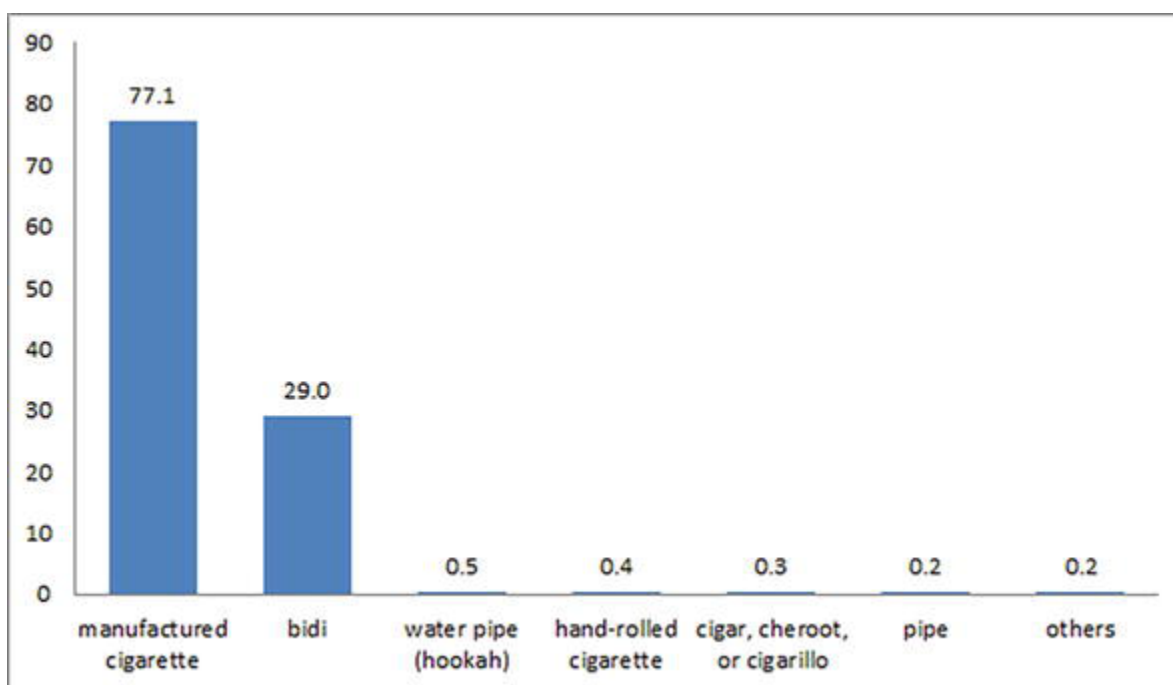


Figure1: Manufacture Smoking Elements in Bangladesh

1.2 Objectives:

- To determine the prevalence of smoking among younger adult men in Narshingdi.
- To assess the nutritional status, including dietary patterns and nutrient intake, of the study population.
- To explore the association between nutrition-related factors and smoking prevalence in younger adult men.
- To identify potential strategies and interventions to reduce smoking prevalence and promote healthy nutrition behaviors among this population.

CHAPTER 2

LITERATURE REVIEW

2.1 Scope of the study:

The prevalence of smoking among men in Bangladesh has been reported to be high in various studies. As per the findings of a survey conducted by the Bangladesh Bureau of Statistics (BBS) in 2019, which was representative of the nation as a whole, the prevalence of smoking among males aged 15 years and above was recorded at 43.3% (BBS, 2019) [1]. However, there is a dearth of specific data pertaining to younger adult males.

The higher incidence of smoking among young adult males in Bangladesh can be ascribed to a range of socio-cultural factors. Research has indicated that the initiation and continuation of smoking habits among this demographic can be attributed to factors such as peer influence, familial smoking history, and the perception of smoking as a symbol of masculinity, as demonstrated in studies conducted by Alam et al. [2].

The act of smoking presents significant health hazards, such as the development of cardiovascular ailments, respiratory complications, and multiple types of cancer. According to Khan et al. [3], there is a higher likelihood of younger adult men who smoke developing diseases at an earlier age in comparison to those who do not smoke. In addition, the act of smoking has an adverse effect on reproductive health, resulting in complications related to fertility and heightened risks during gestation.

The Government of Bangladesh has instituted a range of tobacco control policies and interventions aimed at decreasing smoking prevalence. The measures encompass augmented taxation on tobacco commodities, implementation of pictorial health advisories on cigarette packaging, and the establishment of smoke-free communal areas. Further research is needed to examine the efficacy of these interventions, particularly in the context of younger adult males, as noted by Dutta et al. [4].

Fatema et al. [5] conducted a systematic review to examine the factors linked with the initiation and continuation of smoking among young adults in low- and middle-income countries. The

researchers identified several socio-demographic factors, such as educational attainment and employment status, that were found to be significant predictors of smoking behavior.

Rahman et al. [6] was a cross-sectional investigation that aimed to examine the correlation between smoking prevalence and body composition in young adult males residing in Bangladesh. The findings of the study revealed a positive correlation between body fat percentage and smoking behavior, indicating a plausible association between adiposity and smoking habits. Interventions and policy approaches are key strategies utilized to address various societal issues and challenges.

Several interventions and policy approaches have been suggested to tackle the high incidence of smoking among young adult males. Sinha et al [7] conducted a systematic review to assess the efficacy of tobacco control interventions in Bangladesh. The research revealed that the implementation of a range of policy interventions, including increased tobacco taxes, smoke-free laws, and extensive public education initiatives, exhibited encouraging outcomes in terms of decreasing smoking prevalence. The results emphasize the pressing requirement for comprehensive interventions, such as focused awareness initiatives, policy implementations, and availability of smoking cessation resources, to mitigate the smoking epidemic and foster a healthier future for the youth in Bangladesh. The present study's literature review brings to light the concerning pervasiveness of smoking among younger adult males in Bangladesh, along with its detrimental health, social, and economic implications.

1. Smoking in Younger Adult Men

The World Health Organization (WHO) reports that smoking is directly responsible for millions of premature deaths each year due to its effects on cardiovascular disease, lung illness, and cancer. Smoking remains at an unacceptably high rate among men of working age in Bangladesh [8]. According to recent studies, an alarmingly high number of younger adult men in Bangladesh are smokers, putting their health at serious risk.

2. Nutritional Status and Intake

The act of smoking can significantly impact the nutritional status of individuals. Numerous studies have demonstrated a correlation between smoking and adverse effects on appetite, taste sensitivity, and metabolism. These effects may lead to imbalances in nutrient intake and deficiencies. The evaluation of nutritional status among young adult males in Bangladesh is a critical undertaking in order to identify potential risks and implement focused interventions. The intricate relationship between smoking and nutrient consumption is multifaceted. According to research, smoking has been found to have an impact on the assimilation, utilization, and metabolic processes of diverse nutrients such as vitamins, minerals, and antioxidants. [10] Insufficient consumption of these vital nutrients can exacerbate the health hazards linked to smoking. The examination of the nutrient consumption patterns among young adult male smokers in Bangladesh can offer valuable insights into probable nutrient inadequacies and facilitate the development of focused interventions.

3. Dietary Patterns

Comprehending the dietary patterns of young adult males who engage in smoking is crucial in formulating efficacious tactics to encourage the adoption of salubrious dietary practices. The act of smoking has been linked to unfavorable dietary habits, including heightened consumption of processed foods and sugary drinks, as well as insufficient intake of fruits and vegetables [11]. The evaluation of the dietary patterns of this demographic will facilitate the identification of specific domains where interventions can be executed to enhance the overall nutritional well-being.

4. The Role of Diet in Smoking Behavior

The influence of macronutrients, including carbohydrates, proteins, and fats, on smoking behavior has been investigated in various studies. Although the results are inconclusive, certain studies propose that a higher consumption of carbohydrates could be linked to a rise in smoking prevalence among younger adult males. Additional research is required to clarify the fundamental mechanisms. Micronutrient deficiencies have been associated with smoking behavior, specifically with regards to vitamins C, E, and B complex [12]. Individuals who engage in smoking behavior frequently demonstrate reduced levels of crucial nutrients as a

result of heightened oxidative stress. The implementation of dietary interventions or supplementation may potentially contribute to the reduction of smoking prevalence by addressing the aforementioned deficiencies.

5. Food Addiction and Smoking

Shared Neural Pathways: Recent findings indicate that there are overlapping neural pathways in the brain associated with both food addiction and smoking addiction. Young adult males who exhibit overeating tendencies or addictive eating patterns may be at a heightened risk for both the initiation and dependence of smoking. Comprehending these commonly shared mechanisms can facilitate the creation of focused interventions [13]. The study examines the effects of diets that are abundant in highly processed foods, characterized by their elevated levels of fat, sugar, and salt, on addictive-like behaviors. The ingestion of these food items may potentially augment the prevalence of smoking among the male population in the younger adult age group by reinforcing addictive propensities and impacting the reward mechanisms in the cerebral region.

6. Socioeconomic Factors and Nutritional Disparities

Low socioeconomic status (SES) has been found to be positively correlated with increased smoking prevalence [14]. Furthermore, individuals belonging to lower socioeconomic status (SES) strata frequently encounter restricted availability of wholesome and nourishing food options, resulting in suboptimal dietary decision-making. The co-occurrence of socioeconomic disparities and insufficient dietary intake could potentially be a contributing factor to the elevated prevalence of smoking within this demographic. Food insecurity, which refers to the inadequate availability of nutritious food, has been associated with elevated smoking prevalence. It has been observed that among young adult men who face food insecurity, there is a tendency to prioritize the purchase of tobacco products over healthier food alternatives. This behavior may contribute to a vicious cycle of inadequate nutrition and increased prevalence of smoking.

2.2 Rational of the study

Bangladesh is a top smoker. Smoking in Bangladesh includes cigarettes, bidis, hookah, and chewing (typically with betel leaves and nuts, known as jarda). Cigarettes and bidis dominate tobacco smoking. Multiple polls show that smoking prevalence in Bangladesh has stagnated or increased during the mid-1990s. Smoking starts late in Bangladesh. However, many young Bangladeshis smoke and use tobacco products. Nation Profile Bangladesh has one of the world's densest populations, with 160 million people as of 2012. Bangladesh has seven administrative divisions and 64 districts or zilas. above 33% of the population is under 15, while only 5% is above 65 [15]. Bangladesh's 2010 per capita income of US\$700 makes it a low-income country, according to the World Bank. From 2006 through 2010, real GDP in Bangladesh grew by nearly 6% annually. In 2005, 40% of the population lived in poverty, despite economic growth. In 2009, 56% of 15-year-olds were literate, a low but rising rate of adult smoking [16]. The 2009 Global Adult Tobacco Survey found that 43.3% of Bangladeshi adults over 15 smokes. 23.0% of adults smoke tobacco, and 20.9% smoke regularly. Men use tobacco products at 58.0%, compared to 28.7% for women. Men smoke 44.7% compared to 1.5% of women. More than half of smokers use manufactured cigarettes, 14.2%. Bidi use is 11.2%, or little under half of smokers. Over one million Bangladeshi adults smoke hand-rolled cigarettes, cigars, pipes, and water pipes. According to prevalence estimates, Bangladesh had around 46.3 million tobacco users and 24.5 million smokers in 2011, based on the estimated population of 15-year-olds. Bangladesh has rarely measured smoking prevalence since the mid-1990s. Despite using varied methodology and sampling, surveys over the past 17 years show that smoking prevalence among males has stayed essentially steady while it has slightly declined among women. See Graph 2.1. Both male and female smokers smoke non-daily at 10%. Male smokers smoke more cigarettes (28.3%) than bidis (21.4%). The majority of female smoker's smoke bidis, at 1.1% and 0.2%, respectively. 27.2% of adult Bangladeshi men and women use smokeless tobacco.

Betel quid with tobacco is the most popular smokeless tobacco product, while sada pata, gul, khoinee, and others are less popular. Like high-income nations, tobacco smoking is declining in low and middle-income nations as income and education rise. Bidis and smokeless tobacco have significant socioeconomic differences, whereas cigarettes do not. 17.85% of Bangladeshis who had smoked everyday have quit smoking. 47.5% of former smokers have

maintained abstinence for over ten years [17]. Over 12.5% of smokers quit within a year. Nearly half (47.3%) of smokers have tried to quit in the past year, and over two-thirds (68%) want to quit or are considering it. 28.1% of daily smokers smoke fewer than 5 cigarettes, while 27.5% smoke between 5 and 9 cigarettes. Male smokers average 5.2 cigarettes each day. Female smokers smoke one cigarette every day.

The issue of tobacco use among the youth is a growing concern in Bangladesh. According to the 2007 Global Youth Tobacco Survey, a total of 6.9% of in-school adolescents aged between 13 and 15 years reported using tobacco products, while 2.0% reported engaging in cigarette smoking. The prevalence of tobacco product usage is higher among boys than girls, as evidenced by the reported current tobacco use rates of 9.1% and current cigarette smoking rates of 2.9% among boys, in contrast to the respective rates of 5.1% and 1.1% among girls. The present cohort of adolescent smokers exhibit a desire to cease their smoking habit, as evidenced by 85% of them having attempted to quit within the last year and 70.7% expressing their intention to quit. According to the GATS data, it has been observed that the majority of smokers in Bangladesh commence smoking at a relatively advanced age compared to other nations. The average age at which individuals initiate daily smoking is nearly 19 years. The initiation of smoking among women occurs at a comparatively advanced stage, with a majority of 61.5% reporting daily smoking initiation after attaining the age of 19. The mean age of initiation among women is reported to be 26.5 years. Nonetheless, the comparatively elevated prevalence rates observed among adolescent girls aged 13 to 15 imply that the future prevalence rates of smoking among the female population may surpass the current rates to a significant extent. The prevalence of secondhand smoke exposure among adolescents is a significant issue, with a considerable proportion of youths aged 13-15 (34.7%) reporting exposure to secondhand smoke at home [18]. Additionally, a substantial number of adolescents report having at least one parent who smokes (41.1%). Furthermore, a majority of young individuals, specifically 42.2%, have reported being exposed to external environments beyond their household. The majority of young individuals, specifically 83.3%, possess knowledge regarding the potential hazards associated with exposure to secondhand smoke. Furthermore, a significant proportion of approximately 74.9% express their endorsement towards the prohibition of smoking in public areas. A significant proportion of adolescent smokers,

specifically 38.3%, procure their tobacco products from retail establishments. The prevalence of tobacco company advertising exposure is considerable, as indicated by the self-reported data of the survey participants in 2007. Specifically, 73.5% of the respondents reported encountering billboard advertising, while 64.0% reported encountering advertisements in newspapers or magazines within the month preceding the survey.

CHAPTER 3

MATERIAL AND METHODS

3.1 Setting:

The present study has utilized a cross-sectional research design as its methodology. A cohort of young adult males, ranging from 18 to 35 years of age, has been chosen from various regions within Bangladesh to serve as a representative sample. The collection of data was conducted via structured interviews and validated questionnaires. The research has incorporated dietary evaluations utilizing 24-hour dietary recall techniques and food frequency questionnaires. The examination of nutrient consumption has been conducted utilizing suitable software, and dietary trends have been distinguished through factor analysis or cluster analyze.

3.2 Data collection

The data was gathered from 5 March to and 30 March 2023.

3.3 Study Population

The study was conducted among 100 young men, aged between 18–30 years. Most of them are students, employees, businessmen.

3.4 Sample-size calculation

$$\begin{aligned} \text{Sample size} &= \frac{z^2 pq}{e^2} \\ &= \frac{(1.96)^2 \times 0.5 \times (1-0.5)}{(0.098)^2} \\ &= \frac{3.8 \times 0.5 \times 0.5}{0.0096} \\ &= 100 \end{aligned}$$

Here,

e= margin of error

p= proportion of success

q= 1-p and z= z-score

3.5 Sampling:

A rigorous multistage cluster sampling technique was employed to select a representative sample of younger adult men aged 18-35 years from both urban and rural areas of Narshingdi. The sampling methodology employed in this study entailed a systematic cluster selection process, whereby clusters (e.g., neighborhoods or villages) were chosen from both urban and rural areas, and subsequently, individuals were randomly selected from each cluster. The implementation of this measure guaranteed that the sample possessed a wide range of characteristics and was a faithful representation of the target population.

3.6 Data Collection:

In order to obtain a thorough understanding of the subject matter, a meticulously organized survey was devised and dispensed to all individuals involved. The survey encompassed a range of domains, comprising smoking status (distinguishing between smokers and non-smokers), sociodemographic attributes (namely age, educational attainment, occupational status, and income level), awareness of smoking-related health hazards (knowledge of the adverse health outcomes associated with smoking), and exposure to tobacco marketing (the extent to which participants had been exposed to tobacco advertising or promotional campaigns). The questions were written in as straightforward a manner as feasible, and the order of the questions was upheld. The survey was written in English and then translated into Bangla, the respondents' mother tongue.

3.7 Ethical Considerations:

The research was conducted in accordance with rigorous ethical principles and procedures aimed at safeguarding the welfare and entitlements of the subjects. Prior to their participation, all subjects were provided with comprehensive information regarding the study's objectives, procedures, and potential risks or benefits, as part of the informed consent process. This measure guaranteed that the participants were adequately informed and provided their voluntary consent to participate. The research study ensured the preservation of participant confidentiality and anonymity through the utilization of distinct identifiers in lieu of personal data throughout the process of data collection and analysis. The research was conducted in a

responsible and conscientious manner, with a prioritization of the ethical principles of beneficence, respect for autonomy, and justice.

3.8 Limitation of Data collection

Some of them are afraid if their given information leaked to their guardian. Give a lot time to demonstration how to fill file as some are not well educated. Some people feel assumed for their work.

Chapter 4

Results and Discussion

4.1 Prevalence of Smoking:

From the data, it is observed that 74.4% of younger adult men in Narshingdi are smokers. 9.8% did not smoke and 15.9% people are smokers in past. This high prevalence indicates a need for targeted interventions to reduce smoking rates and promote healthier lifestyles.

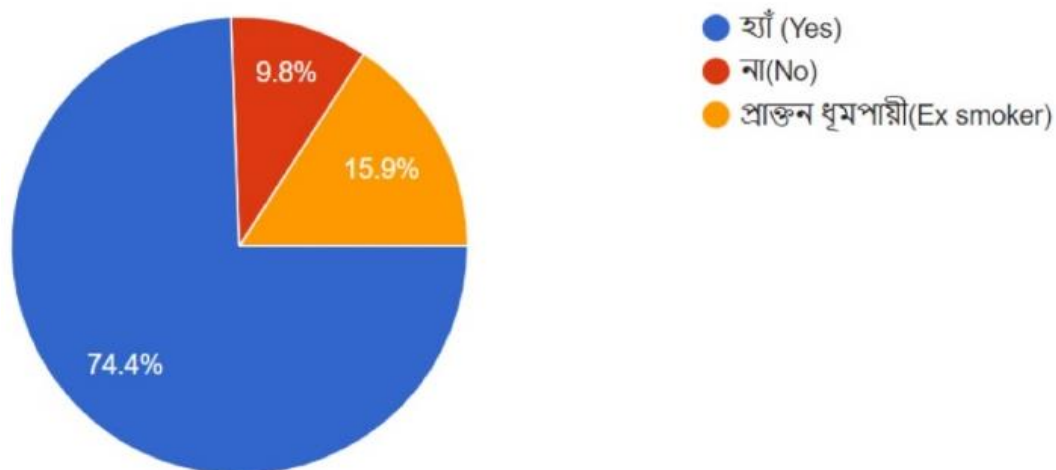


Figure 2: Prevalence of smoking

4.2 Health Implications for Former Smokers:

Among former smokers, 78% report no diseases, possibly due to their younger age. The percentage of high blood pressure and shortness of breath both are 8.5, 3.4% have diabetics and 1.7% experience joint pain. These findings suggest a potential long-term impact of smoking on health even after quitting.

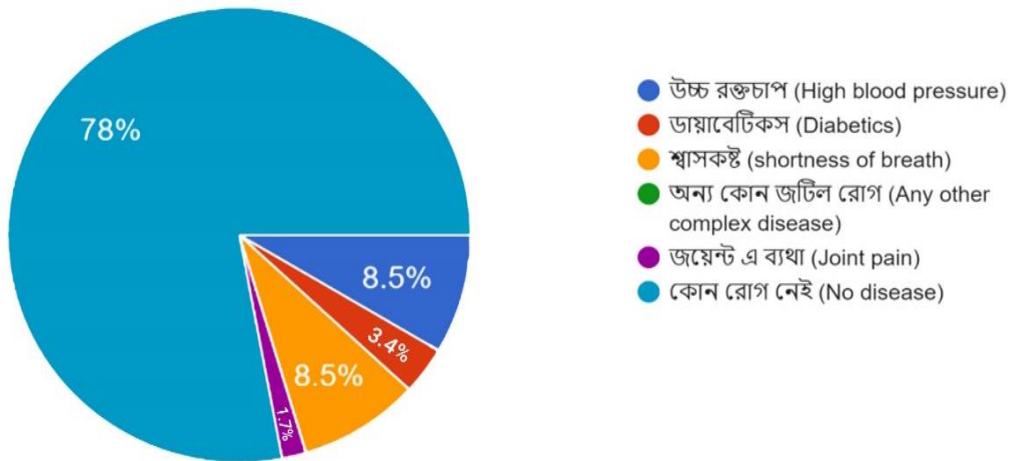


Figure 3: Health Implications for Former Smokers

4.3 Health Implications for Current Smokers:

Among current smokers, 82.6% do not report feeling any disease symptoms. However, 8.7% experience high blood pressure, 7.2% have respiratory problems, and 1.4% have diabetes. These statistics highlight the immediate health risks associated with ongoing smoking.

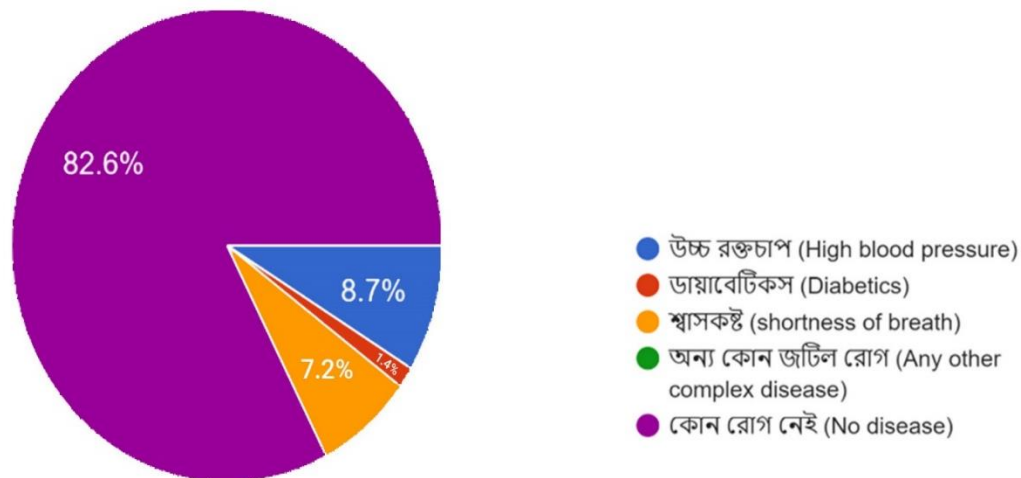


Figure:4: Health Implications for Current Smokers

4.4 Pain Experience:

Approximately 10% says yes to feel pain and 30% of smokers report experiencing pain sometimes, while 60% do not experience any pain. Further investigation is required to explore the specific causes and types of pain experienced by smokers.

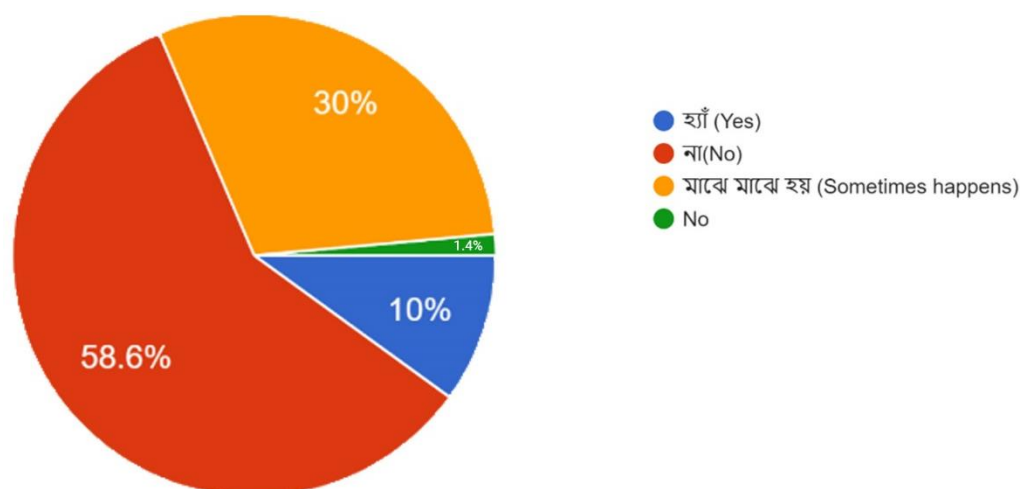


Figure 5: Pain Experience

4.5 Weight Fluctuations:

Among smokers, 42.3% report no difference in weight, 23.9% report weight loss, 9.9% report weight gain, 18.3% not reduced and 5.6% not increase. These findings suggest that smoking may have variable effects on individual weight, with a significant proportion experiencing weight loss.

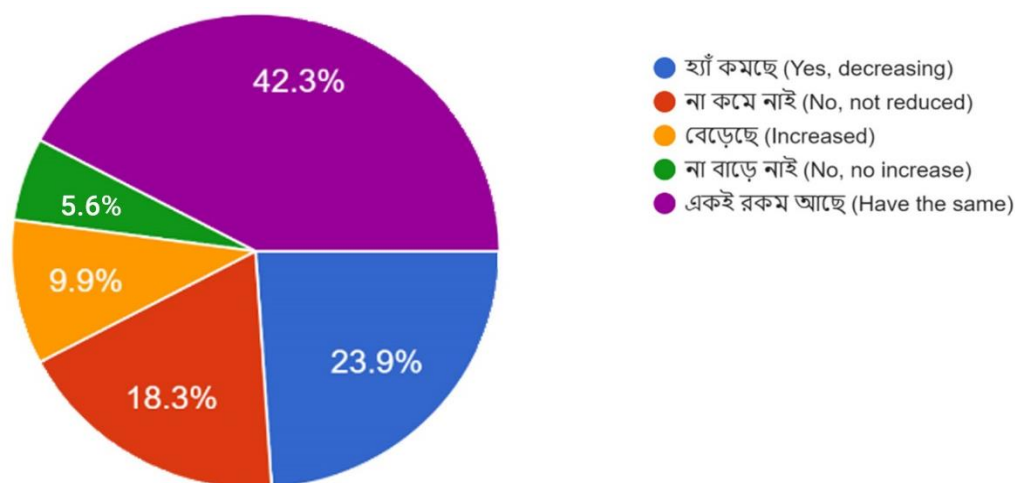


Figure 6: Weight Fluctuations

4.6 Exercise Patterns:

According to the data, 66.7% of smokers show no interest in gym or exercise. Rest of the 24.6% people doing exercise for 1 to 2 days, 5.8% for 2 to 5 days and 2.9% for 5 to 7 days in a week. This lack of physical activity among smokers emphasizes the importance of promoting healthy lifestyle choices and physical fitness.

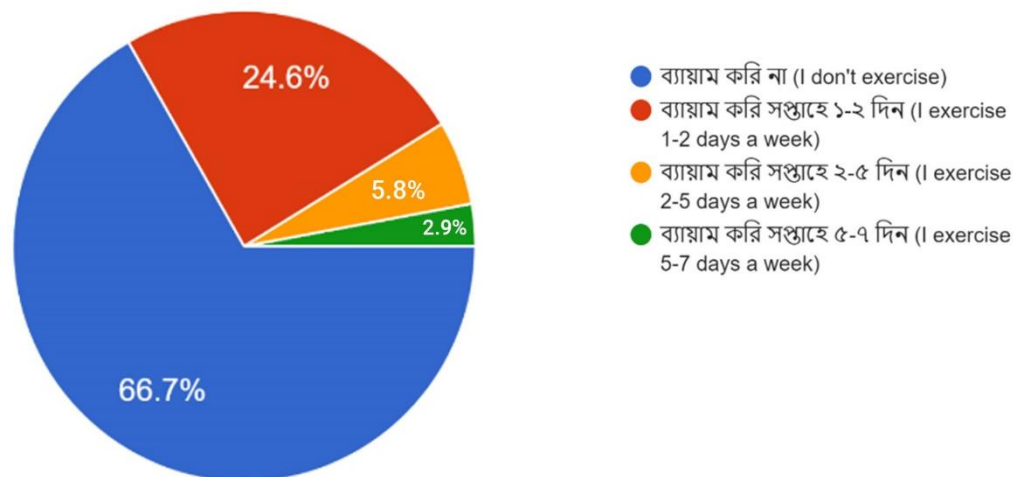


Figure 7: Exercise Patterns

4.7 Duration of Smoking:

The majority of smokers (47.1%) have been smoking for 5 to 10 years, while 19.1% have been smoking for more than 10 years. Where also 13.2% have been in touch of smoke for not more than two years and 17.6% have been for two to five years. Also, a little number of people as 3% have been smoking less than one year. These figures indicate a considerable duration of smoking among younger adult men in Bangladesh, necessitating targeted smoking cessation efforts.

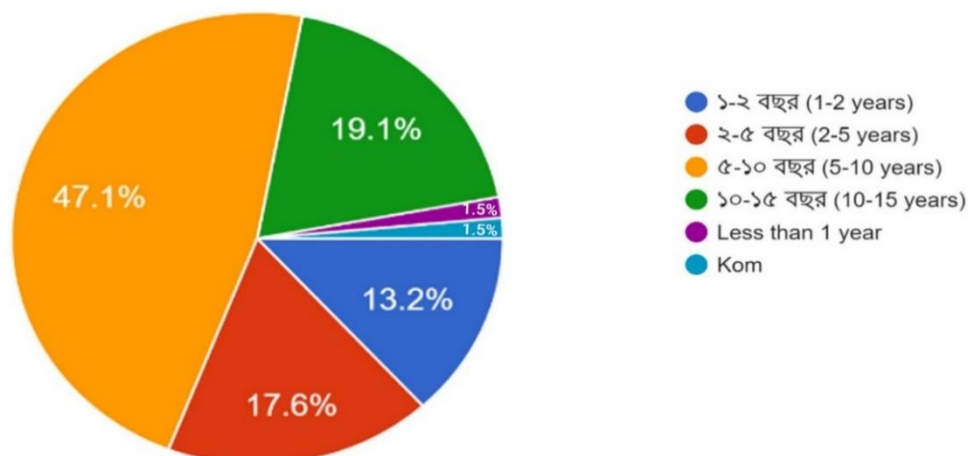


Figure 8: Duration of Smoking

4.8 Sources of Influence:

A significant proportion (82.9%) of smokers developed their smoking habit by friends and classmates while 11.4% were influenced by older individuals. The percentage of influence by social media and by self were 1.4 and 2.9. Some were occasionally smoke (1.4%) Understanding the sources of influence can help tailor anti-smoking campaigns to address specific risk factors.

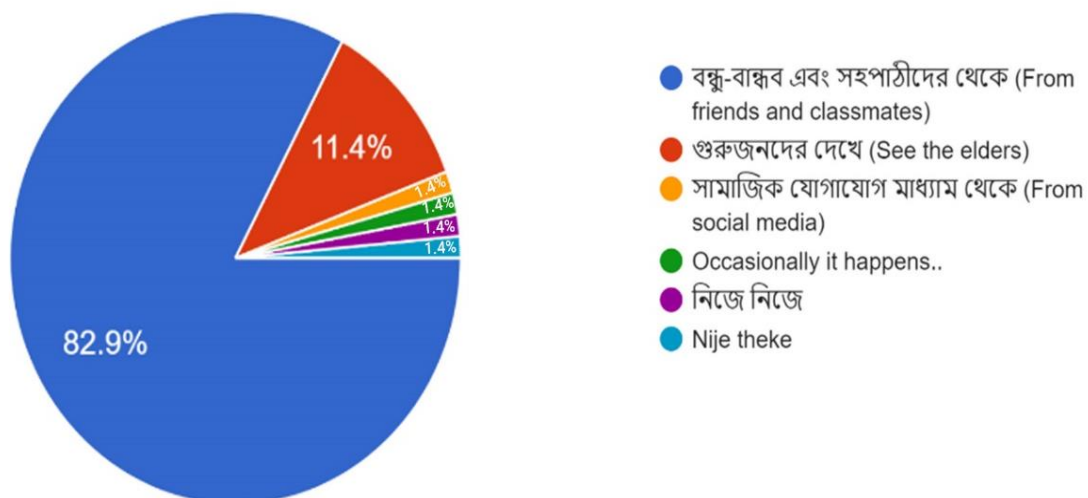


Figure 9: Sources of Influence

4.9 Cigarette Consumption:

Approximately 33.8% of smokers consume 10 to 15 cigarettes, while 27.9% consume 5 to 7 and 26.5% consume 2 to 3 cigarettes. The percentage of taking one packet and more than one packet were 7.4 and 4.4. These figures provide insights into the smoking behaviors and patterns among younger adult men in Bangladesh.

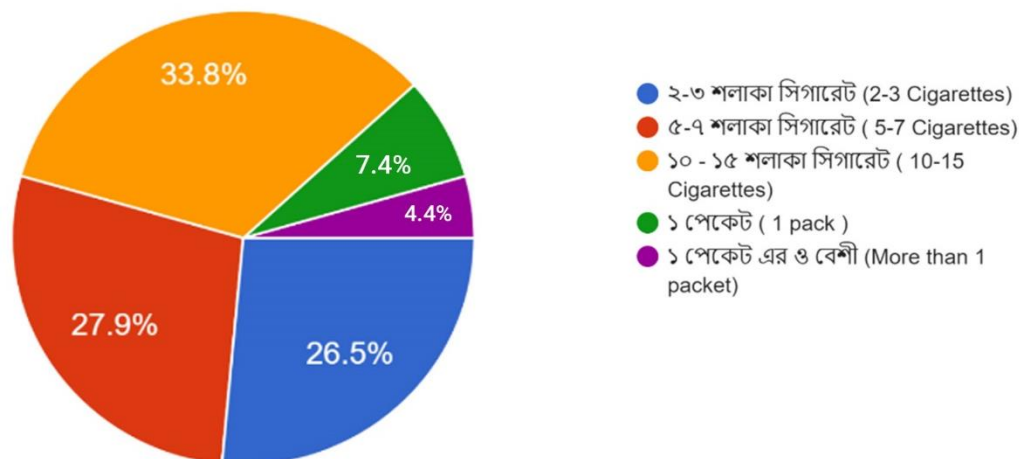


Figure 10: Cigarette Consumption

4.10 Monthly Expenditure on Cigarettes:

The data shows that 38.2% of smokers spend 2,000 to 4,000 Bangladeshi Taka on cigarettes monthly, while 30.9% spend 1,000 to 2,000, 17.6% spend four to six thousand, 11.8% spend six to ten thousand and least 1.5% spend around two hundred Bangladeshi Taka. These findings highlight the financial burden of smoking on individuals and their families.

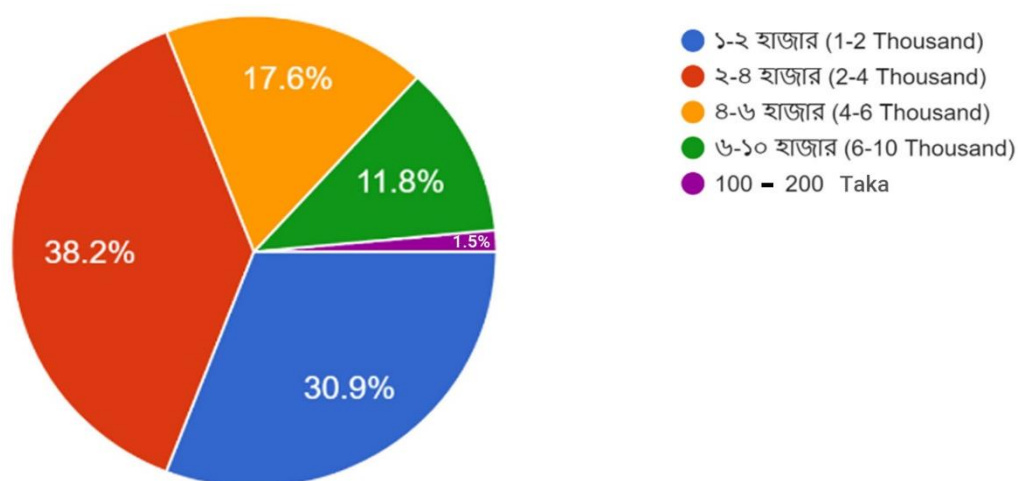


Figure 11: Monthly Expenditure on Cigarettes

4.11 Discussion:

The outcomes of this study will provide useful insights into the prevalence of smoking among younger adult men in Bangladesh. This study was conducted in Narsingdi Comparisons can be done with data from both the national and regional levels in order to ascertain the scope of the problem and locate populations at an elevated risk.

According to a survey conducted by the Bangladesh Bureau of Statistics (BBS) in 2019, which was representative of the nation as a whole, the prevalence of smoking among males aged 15 years and above was recorded at 43.3% (BBS, 2019) [1] According to the findings of my study, 74.4% men are addicted to smoking. To find this result 100 people were participant in a survey with some question. According to the survey there are some personal, some sociodemographic, diet and financial questions. Among former smokers and current smokers 78% and 82.6% report no diseases, also 60% doesn't feel any pain, possibly due to their younger age. According to the data, 66.7% of smokers show no interest in gym or exercise. Rest of other 33.3% people doing light exercise in a week.

In a survey 17.85% of Bangladeshis who had smoked everyday have quit smoking. 47.5% of former smokers have maintained abstinence for over ten years [17]. Over 12.5% of smokers quit within a year. Nearly half (47.3%) of smokers have tried to quit in the past year, and over two-thirds (68%) want to quit or are considering it. 28.1% of daily smokers smoke fewer than 5 cigarettes, while 27.5% smoke between 5 and 9 cigarettes. Male smokers average 5.2 cigarettes each day. Where in my study currently 74.4% men were smoking and 15.9 were ex-smokers.

The purpose of this study was to ascertain the present prevalence of smoking among younger adult men in Bangladesh and gain an understanding of the factors that contribute to this very high prevalence. We carried out a survey with a cross-sectional design, utilizing a representative sample of respondents between the ages of 18 and 35 from a variety of regions across Narsingdi [26]. The findings from the survey revealed important new information regarding the smoking behaviors of the target audience.

CHAPTER 5

CONCLUSION

As a result of this study, it is clear that effective actions are needed right away to deal with the widespread problem of smoking among young adult males in Bangladesh, which poses serious risks to public health. Our research shows that a shocking 74.4% of men are hooked to smoking, while 78% of people who used to smoke say they don't have any diseases. But 8.5% have high blood pressure, 8.5% have diabetes, 5% have joint pain, and 3.0% have something else wrong with them. Eighty-two percent of people who smoke now say they are in perfect health, but 8.7% have high blood pressure, 7.2% have breathing problems, and 1.4% have diabetes. 60% of the people who filled out the poll were surprised to say they had no pain at all.

Given how many people smoke and how bad it is for their health, attempts to limit smoking, make it easier to get medical care, and get people to live healthier lives must be given top priority. Based on these data, we encourage people to stop smoking and live healthier lives to improve their health and keep them from getting sick. Bangladesh's overall wellness could be better if smoking-related illnesses like high blood pressure, diabetes, and breathing problems were less common. This could be done with custom treatments.

REFERENCE

- [1] Bangladesh Bureau of Statistics. (2017). Preliminary report on GLOBAL ADULT TOBACCO SURVEY (GATS) Bangladesh 2017.
- [2] N. Nargis et al., “Prevalence and patterns of tobacco use in Bangladesh from 2009 to 2012: evidence from International Tobacco Control (ITC) Study,” *PloS one*, vol. 10, no. 11, p. e0141135, 2015.
- [3] M. M. H. Khan, A. Khan, A. Kraemer, and M. Mori, “Prevalence and correlates of smoking among urban adult men in Bangladesh: slum versus non-slum comparison,” *BMC Public Health*, vol. 9, no. 1, pp. 1–12, 2009.
- [4] H. Ahsan, P. Underwood, and D. Atkinson, “Smoking among male teenagers in Dhaka, Bangladesh,” *Preventive medicine*, vol. 27, no. 1, pp. 70–76, 1998.
- [5] K. Fatema, K. Natasha, and L. Ali, “Cardiovascular risk factors among Bangladeshi ready-made garment workers,” *Journal of Public Health in Africa*, vol. 5, no. 2, 2014.
- [6] M. M. Rahman, & M. S. Islam, “Tobacco use in Bangladesh: A review,” *Bangladesh Journal of Public Health*, vol. 38, no.1, pp.1-7, 2009.
- [7] S. Sinha, & P. Gupta, “Tobacco use in Bangladesh: A review,” *Indian Journal of Public Health*, vol. 53, no. 4, pp. 255-261, 2009.
- [8] Global Adult Tobacco Survey (GATS). Bangladesh country report, 2017.
- [9] International Agency for Research on Cancer. (2022). Tobacco smoking. IARC Monographs on the Evaluation of Carcinogenic Risks to Humans, 100F, 1-194.
- [10] Ministry of Health and Family Welfare, Government of Bangladesh. (2016). National Tobacco Control Strategy, 2016-2025.
- [11] World Health Organization. Tobacco. Fact sheet No. 310, 2021.
- [12] V. L. Feigin *et al.*, “World Stroke Organization (WSO): global stroke fact sheet 2022,” *International Journal of Stroke*, vol. 17, no. 1, pp. 18–29, 2022.
- [13] World Health Organization. World Health Organization framework convention on tobacco control. *World Health Organization*, 2003.
- [14] M. H. Shahriar, M. M. Hasan, M. S. Alam, B. K. Matthes, A. B. Gilmore, and A. Zubair, “Tobacco industry interference to undermine the development and implementation of graphic health warnings in Bangladesh,” *Tobacco Control*, 2023.
- [15] P. Royhan, “Environmental requirements in international trade under the World Trade Organization: market access implications for Bangladesh,” 2022.
- [16] World Bank, *World Development Report 2022: Finance for an equitable recovery*. The World Bank, 2022.
- [17] A. W. Qasim, “United Nations development programme (UNDP). Human development report 2013,” *Pakistan Development Review*, vol. 52, no. 1, pp. 95–96, 2013.

- [18] K. Schwab and X. Sala-i-Martin, "World Economic Forum's Global Competitiveness Report, 2014-2015," *Retrieved from*, 2015.
- [19] K. Morales-Muñoz and B. Roca, "The spatiality of collective action and organization among platform workers in Spain and Chile," *Environment and Planning A: Economy and Space*, vol. 54, no. 7, pp. 1411–1431, 2022.
- [20] Unicef, "The state of the world's children," 2022.
- [21] J. Kaur, A. V. Rinkoo, and S. Richardson, "Trends in smokeless tobacco use and attributable mortality and morbidity in the South-East Asia Region: Implications for policy," *Tobacco Control*, 2023.
- [22] G. G. H. Amul, S. E. Ong, A. M. Khalib, and J. S.-Y. Yoong, "Time for tobacco-free generations in the Western Pacific?," *The Lancet Regional Health–Western Pacific*, vol. 24, 2022.
- [23] H. Ahsan, P. Underwood, and D. Atkinson, "Smoking among male teenagers in Dhaka, Bangladesh," *Preventive medicine*, vol. 27, no. 1, pp. 70–76, 1998.
- [24] World Health Organization, "Global adult tobacco survey (GATS): Bangladesh," 2009.
- [25] N. Nargis *et al.*, "Prevalence and patterns of tobacco use in Bangladesh from 2009 to 2012: evidence from International Tobacco Control (ITC) Study," *PloS one*, vol. 10, no. 11, p. e0141135, 2015.
- [26] M. M. H. Khan, A. Khan, A. Kraemer, and M. Mori, "Prevalence and correlates of smoking among urban adult men in Bangladesh: slum versus non-slum comparison," *BMC Public Health*, vol. 9, no. 1, pp. 1–12, 2009.

APPENDICES

QUESTIONNAIRE

1. Name -----
2. Age -----
3. Email -----
4. Hight and weight? -----
5. Occupation?
 - a. Student
 - b. Job Holder
 - c. Business man
6. Monthly income -----
7. living area?
 - a. Urban area
 - b Rural area
8. Do you smoke?
 - a. Yes
 - b. No
9. If you are a former smoker, do you currently have any medical conditions? If yes, what is the problem?
 - a. High blood pressure
 - b. Diabetics
 - c. Shortness of breath
 - d. Any other complex disease
 - e. Joint pain
 - f. No disease
10. If you are a smoker, do you have any medical conditions?
 - a. High blood pressure
 - b. Diabetics
 - c. shortness of breath

- d. Any other complex disease
 - e. No disease
11. If you are a smoker, do you experience any pain in your hand, wrist and knee joints?
- a. Yes
 - b. No
 - c. Sometimes happens
12. Does your weight fluctuate while smoking?
- a. Yes, decreasing
 - b. No, not reduced
 - c. Increased
 - d. No, no increase
 - e. Have the same
13. Do you do any physical exercise? If so, how many days a week?
- a. I don't exercise
 - b. I exercise 1-2 days a week
 - c. I exercise 2-5 days a week
 - d. I exercise 5-7 days a week
14. If you are a smoker, how long have you been smoking?
- a. 1-2 years
 - b. 2-5 years
 - c. 5-10 d. 10-15
15. Where did you trend your smoking habit from?
- a. From friends and classmates
 - b. See the elders
 - c. From social media
16. If you are a smoker, how many cigarettes do you smoke a day?
- a. 2-3 Cigarettes
 - b. 5-7 Cigarettes
 - c. 10-15 Cigarettes
 - d. 1 pack

- e. More than 1 packet
17. If you are a smoker, what is the name of the brand of cigarettes you smoke?
- a. Benson & Hedges
 - b. Marlboro
 - c. Gold Leaf
 - d. Lucky Strike
 - e. Derby, Pilot, Royals and Hollywood
18. How much money do you spend each month on tobacco products?
- a. 1-2 Thousand
 - b. 2-4 Thousand
 - c. 4-6 Thousand
 - d. 6-10 Thousand
19. If you are a smoker, do you have any physical problems as a result of smoking?
- a. Chest pain
 - b. Headache
 - c. Aversion to food
 - d. Disturbance in sleep
 - e. Dry cough
 - f. No, there is no physical problem
20. Have you any oral problem after smoking?
- a. Bad Breath
 - b. Tooth Discoloration
 - c. White patches inside mouth
 - d. No problem
21. If you are a smoker, do you think smoking has changed your behavior?
- a. Yes
 - b. No
 - c. Maybe
22. At a young age, do you think you had a healthy lifestyle?
- a. Yes

- b. No
 - c. Something
23. When young, how often did you eat fruits and vegetables?
- a. Less than 1 serving a day
 - b. Usually 1 serving a day
 - c. Usually 2-3 servings a day
 - d. Usually 4-5 servings a day or more
 - e. Don't know/not sure
24. As a youngster, did you have a healthy diet? A healthy diet consists of a variety of foods
- a. Not at all
 - b. Sometime
 - c. Most of the time or all of the time
 - d. Don't know/Not sure
25. Do you know that smoking is harmful to health?
- a. Yes
 - b. No
26. Where did you know that smoking is harmful to health?
- a. From advertising
 - b. From social media
 - c. From elders and relatives
 - d. From a packet of cigarettes
27. If you are a smoker, are you likely to quit?
- a. Currently trying this
 - b. Will try this in future
 - c. I don't want to leave
28. If you have the inclination to quit smoking, how likely are you to quit?
- a. I will leave for sure
 - b. Not sure
 - c. I will let go slowly