

Assessing Smoking Behaviors and Influencing Factors among Jazan University Students: A Framework for Targeted Cessation Initiatives

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KEYWORDS	ABSTRACT
Smoking Prevalence, University Students, Jazan University, Peer Influence, Socio- Demographic Factors, Smoking Cessation, Tobacco Taxation, Health Education.	Background:Smoking remains a significant public health challenge worldwide, contributing to respiratory disorders, cardiovascular diseases, and various cancers. In Saudi Arabia, despite stringent anti-smoking regulations, university students continue to demonstrate alarmingly high smoking rates. This study aimed to assess the prevalence of smoking behaviors and identify key influencing factors among Jazan University students, providing a basis for targeted cessation initiatives that address social, economic, and cultural determinants. Methods:A cross-sectional analytic study was conducted at Jazan University using a prevalidated questionnaire derived from the Global Adult Tobacco Survey (GATS). A total of 205 students participated (response rate: 71%). Data were analyzed using SPSS, employing both descriptive statistics and inferential tests (including chi-square tests and correlation analyses) to evaluate associations among demographic characteristics, social influences, and smoking behavior. Additionally, graphical presentations (bar charts, pie charts, and scatter plots) were developed to visually depict the findings. Results:Among the respondents, 48.8% had ever smoked, with 38% identified as current smokers. The majority of current smokers were male (69.3%) and aged 20–25 years (65.9%). Key factors associated with smoking initiation and maintenance included peer influence (22%), curiosity (15.6%), and familial smoking habits (51.2%). Although 78.5% of students acknowledged the health risks of smoking, 19% continued to smoke regularly. Health information was primarily obtained from health workers (35.1%), the internet (31.7%), and social media (24.4%). Notably, 70% of smokers expressed an intention to quit within three months, and 42.4% reported a reduction in smoking following tobacco tax increases.

Conclusion:

The findings indicate that smoking among Jazan University students is driven by a complex interplay of socio-demographic, social, and economic factors. These results underscore the need for comprehensive smoking cessation programs that integrate mental health support, targeted health education, and family-based interventions. Future research should focus on evaluating the long-term effectiveness of such culturally appropriate initiatives in reducing smoking prevalence among university populations.

Assessing Smoking Behaviors and Influencing Factors among Jazan University Students: A Framework for Targeted Cessation Initiatives**Introduction**

Problem Statement: Smoking is a health behavior that, on a global scale, is indisputably one of the leading health risks and has adverse effects on practically all body organs. This leads to many difficulties in health, including respiratory diseases, different forms of cancer, and heart diseases, as well as increased risk of mortality (World Health Organization, 2016). Presenting different evidence, Johan et al. confirmed that smoking is actually the most preventable risk in most regions of the world and accounts for deaths of more than 6 million a year due to the diseases caused by it (AlSwuailm et al., 2014). The picture is not any different in Saudi Arabia, which records over 23,000 deaths due to smoking each year (Saudi Ministry of Health, 2009). Despite the well-known health effects of smoking and the clear financial impact of tobacco usage, which amounts to over a trillion dollars annually, smoking remains a habit for some population groups (Kim et al., 2018). It is especially worrisome that about 90 % of smokers began smoking before they were even 18 years of age, an observation that further suggests the need for primary intervention among adolescents (Asawuailm et al., 2014). As the case in many countries, Saudi Arabia has introduced a range of policies to reduce or prevent cigarette smoking including widespread use of anti-smoking education campaigns and restricting minors' access to cigarettes. Though the implementation of these treatments, on the other hand, has proven to be indefinitely effective among the college students, an area that needs intensive focus hence the writing. Such situations should, more so, make them feel that this is a problem that should be addressed with a lot of urgency. With respect to the sociocultural setting of Saudi Arabia, as several factors, including family and peer pressure, may affect smoking behavior (Tucktuck et al., 2017), there is a need to evaluate university students' awareness, attitude, and smoking practices. Investigations carried out in the past have reported differing rates of occurrence and contributory elements amongst different regions and institutions of higher learning in the country (Al-Haqwi et al, 2010). In spite of these efforts, there is still a gap in knowledge that this paper intends to bridge. The primary aim of this study is to measure the extent of smoking among Jazan University students and identify the key correlates of smoking behavior. The secondary aim is to investigate the causes of cigarette smoking among Jazan University students, carefully considering socio-demographic factors. To assess this student population's practice-based knowledge, attitudes, and practices towards tobacco use. The aim is to pinpoint the factors that lead to the initiation and continuation of smoking among the students at Jazan University. The aim is to propose smoking cessation recommendations and strategies for the institution, based on the results of the study.

Literature Review:

On the Prevalence of Smoking among University Students Several researchers have documented the prevalence of smoking among university students in Saudi Arabia. In a more widely conducted study by Abdullah et al. (2014), it was reported that approximately 27.6% of male dental students from King Saud University were cigarette smokers, with most of them relying on shisha. In the same manner, the work of Kim et al. (2020) disclosed a significant prevalence of 30.4% in male students at Majmaah University, the majority of whom started smoking while still in secondary school.

In addition to this, Al-Haqwi et al. (2010) noted that a 19% prevalence rate was recorded in a cohort of medical students from Riyadh, and that all smoking cases were men. All these phenomena extend to the reason for HIV-1 infection among Saudi students. The studies conducted in Saudi colleges have shown alarming rates of tobacco usage predominantly amongst male students (Sirirangsi Patinti, 2016). Emphasis fair, they captured consistent results relative to male students and gin and yeast was encapsulated among picture.

Almutairi (2014) reported a 30.1% prevalence rate of smoking among male health sciences students in Saudi Arabia, 43.3% of the male daily smokers and at least half being weekly smokers. This corroborates the results obtained in other Gulf countries as revealed by Moh'd Al-Mulla et al. (2008) where male university students smoke with a prevalence rate of between 13% and 27% in some Gulf Cooperation Council countries.

Reasons Behind Smoking Initiation And Continuation Among Youngsters

1. Gender Disparities:

According to numerous studies, the incidence of smoking is much higher in men than in women. For example, Asawuailm et al. (2014) report that male students of dental school who had friends who were also smokers were 4 times more likely to take up smoking. Extending this gender oriented epidemiological research in the particular region, Tucktuck et al. (2017) stated that men in Palestinian universities were four times more likely to smoke waterpipe tobacco than women which appears to a norm in many Middle Eastern countries.

2. Peer influence:

Student peering is one of the elements which helps in smoking engagement and continuance in university students. Al-Haqwi et al. (2010) appealed to the fact that peer influence is very important, with students learning to smoke mostly due to friends who already smoke. Tucktuck et al. (2017) were in agreement with this finding, with approximately 50.9 percent of the respondents reporting being influenced by someone in their social network. This goes to further show how social circles are influential in the smoking behavior of adolescents and young adults.

3. Stress and anxiety:

Stress and anxiety also accounts for smoking behavior of university students. Half the sample dental students as self reported by AlSwuailem et al. (2014) indicated that stress was the major reason for smoking. This coincides with the observations made by Yan et al. (2017) , according to whom one of the major reasons for Saudi international college male students' smoking in the U.S. was academic pressure and the need to socialize and relax.”

4. Cultural and Environmental Factors:

The cultural and environmental factors cannot be ruled out when considering smoking behavior. It has been established that media depiction and societal views on tobacco use have a significant impact on the prevalence of tobacco use or smoking. For instance, with regard to the students' long term smoking habit, Al-Haqwi et al. (2010) talked about the culture in which smoking was viewed as a way to relieve tension and stress that led to persistent smoking among students. In further findings, information from Yan et al. (2017) showed smoking among Saudi students on school abroad is primarily driven by culture, a factor not favorable to their smoking behaviors however, requirements of different smoking policies and cultural differences in the US affected their smoking behavior.

Mandil et al. (2010) Went further to state that family influences smoking and in particular paternal smoking is a strong predictor of smoking behavior of university students in Saudi Arabia. This indicates that family factors can be an effective element in the construction of smoking prophylaxis procedures.

Health Consequences and Economic Burden:

It has been reported that there are several negative health effects of tobacco smoking and some studies refrain from disputing this claim as they present that smokers are more prone to lung cancer, heart disease and chronic respiratory diseases even more so than non-smokers (Al-Haqwi et al., 2010). More so, the economic burden is further aggravated by the high costs incurred as a result of providing medical care to patients suffering from ailments resulting from tobacco use.

The WHO (2016) reports that population growth and the increasing prevalence of smoking in developing countries will lead to an upsurge in smoking related deaths in the foreseeable future. Smoking cessation and prevention programs will also be necessary today, tomorrow and in the future which brings in the need for such programs.”

Interventions and Public Health Strategies

All over the world, university students are the leaders of tomorrow and because of that, more vicious approaches have to be taken into smoking prohibition for the students which is o f high burden and has great health implications. Al-Haqwi et al (2010) offer a solution to medical students smoking by creating an awareness of how harmful smoking is as this would in effect help their practice as medical practitioners. Jradi (2015) also emphasizes

the need for physicians to offer smoking cessation advice to patients and points out the role of the health care system in cigarette control.

All these interventions will require, however, and in addition, encouraging legislative measures such as the elimination of tobacco advertising, increased taxation on tobacco products and the strict enforcement of bans on smoking in public places (Al-Haqwi et al. Entering these restrictions with well-directed awareness campaigns in addition to the full scale of Anti-smoking education in the education system can be helpful in reducing the rate of smoking. And so, Jradi suggests, it is equally important that some effort is made to eliminate the barriers to the provision of smoking cessation treatment to physicians in Saudi Arabia, since it is the health professional who promotes smoking cessation. Mahfouz et al.

Furthermore, Lau et al. Suggest that tobacco control measures should be implemented as part of the curricula in universities for better reduction in the rates of smoking in students. Also, Almutairi (2014) underlines the necessity of intervention programs, which are not only smoking cessation programs, but also take into consideration the social and environmental determinants of smoking in Saudi Arabia.

Conclusion

The existence of wide literature on smoking amongst Saudi students came from peer pressure, stress and cultural orientation but raises concerns over health risks concerning the prevalence of the vice smoking amongst the university students in Saudi Arabia. Because of the enormous health and financial consequences that result from smoking, there is an increasing need for specific strategies, and comprehensive public health measures to cut down the rates of smoking within the university society. More studies should still be done on the distinctive determinants to smoking behavior in other sociocultural settings and the effectiveness of various smoking techniques and prevention programs.

Materials and Methods

Study Design

This study was descriptive and cross-sectional in nature and Jazan University was effectively the context of data collection. A structural questionnaire which had been previously pre-tested was used in the collection of data based on the GATS. The questionnaire contained more than 2 main parts, for example: demographic data, reasons for smoking, knowledge and behavior towards smoking, readiness to quit smoking etc.

Study Population

Sample Size Calculation

A study sample size was worked out by using the following formula:

‘n as mentioned Wykoff’...)) Where: (n) = sample size (z) = z – value (1.96 for a confidence level of 95%) (p)- assumed proportion =.25 (q) complementary proportion = 1-p = 0 .75 (m) -margin of error = 0.05

From these details, the computed sample size was 288. However, there were 205 respondents achieving a response rate of 71%.

Data Analysis

The SPSS package was used in the analysis of the data so collected. All aspects of the data collected are reported using descriptive statistics as well as relationships between variables using inferential statistics.

The inferential analysis confirms a significant association between gender and smoking status, with male students exhibiting a higher likelihood of being current smokers ($p < 0.05$), which is consistent with prior research. Furthermore, the graphical illustrations, such as the bar chart (Figure 1) and pie chart (Figure 2), provide visual clarity on the distribution of smoking behavior and the predominant influence of peer relationships. These insights highlight potential focal areas for targeted cessation interventions and policy adjustments.

Ethical Considerations

Ethical issues during this study included the correct and adequate layout of such departure from normative documents. Separate arrangements were made, taking into account the study's aims, to avoid running risks in the students' readiness for arrangement in degrading terms. Ethical approval was sought, and all the participating students signed informed consent.

- The FPHTM Research Committee received support that was ethically sound.
- The information gathered from the individuals who were researched was only for research purposes.
- The volunteer participants were free to turn down the participation offer without qualms.

This ethical consideration procedure safeguarded the participants' rights and the accuracy of the data collected for the study.

Results

The tables and figures below provide a comprehensive summary of the findings regarding smoking prevalence, influences, types, reasons, sources of health information, and attitudes toward quitting among Jazan University students.

Table 1: Demographic Characteristics of Study Sample (N = 205)

Variable	Sub-variable	Frequency	Percentage
Gender	Male	142	69.3%
	Female	63	30.7%
Age	Less than 20	44	21.5%

Variable	Sub-variable	Frequency	Percentage
	20-25	135	65.9%
	More than 25	26	12.7%
Nationality	Saudi	202	98.5%
	Non-Saudi	3	1.5%
Marital Status	Single	162	79.0%
	Married	43	21.0%
Monthly Allowance	Less than 1000 SAR	14	6.8%
	1000-3000 SAR	109	53.2%
	More than 3000 SAR	82	40.0%
Father's Education	Illiterate	61	29.8%
	Primary	27	13.2%
	Secondary	35	17.1%
	University	82	40.0%
Mother's Education	Illiterate	95	46.3%
	Primary	21	10.2%
	Secondary	46	22.4%
	University	43	21.0%
Faculty	Faculty 1	103	50.2%
	Faculty 2	83	40.5%

Comment: The study sample was predominantly male students (69.3%) aged 20-25 (65.9%). Most were Saudi nationals (98.5%) and single (79.0%). Regarding monthly allowance, the highest frequency fell within the SAR 1000-3000 range (53.2%). The educational background of parents varied, with a significant proportion of fathers having a university education (40.0%) and mothers being illiterate (46.3%). Regarding faculty distribution, 63.9% of students were from health and medical colleges, while 36.1% were from other colleges. A further breakdown shows participation from two faculties, with Faculty 1 having the highest representation (50.2%), followed by Faculty 2 (40.5%).

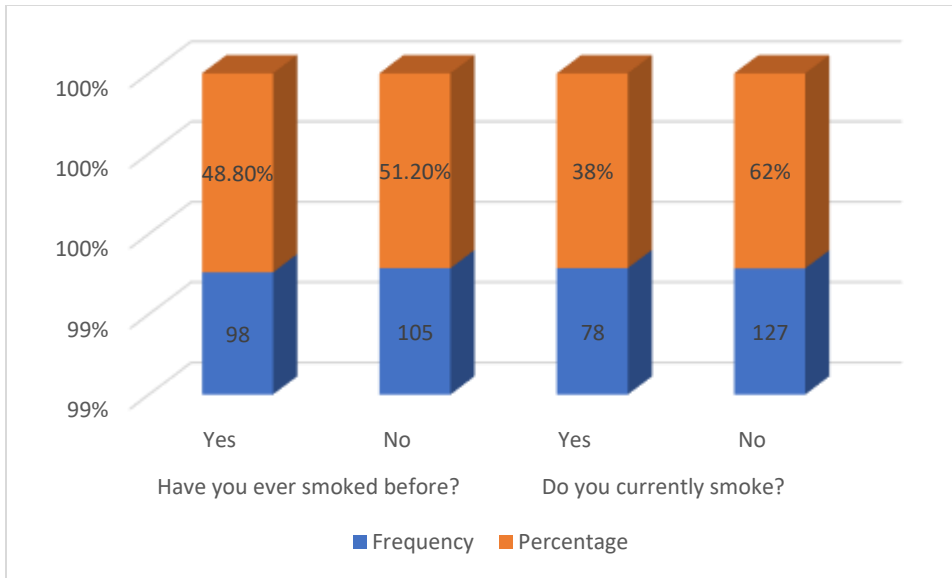


Figure 1: Distribution of Students According to Their Smoking Status (N: 205)

Comment: Nearly half of the students (48.8%) have tried smoking previously, while 38% are current smokers, defined as having smoked any tobacco within the last six months.

Table 2: Relatives and Friends Smoking (N: 205)

Variable	Sub-variable	Frequency	Percentage
Is the father a smoker?	Yes	56	27.3%
	No	149	72.7%
Is anyone in the family a smoker?	Yes	105	51.2%
	No	98	48.8%
Do you have a friend who smokes?	Yes	139	67.6%
	No	66	32.4%

Comment: Smoking within their social circles influences a substantial proportion of students. 27.3% have fathers who smoke, 51.2% have another family member who smokes, and 67.6% have friends who smoke.

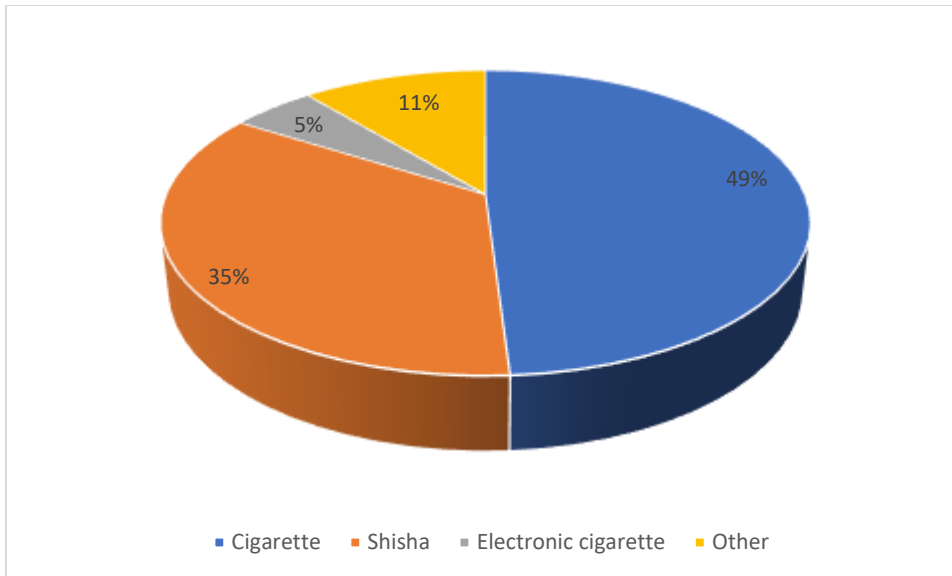


Figure 2: Types of Smoking

Comment: The most common types of smoking among participants are cigarettes (49%), followed by shisha (35%). A smaller proportion use electronic cigarettes (5%) or other forms of smoking (11%).

Table 3: Reasons for Smoking (N: 205)

Variable	Sub-variable	Frequency	Percentage
What are the reasons that made you smoke?	Friends	45	22%
	Smoking by a family member	4	2%
	Curiosity	32	15.6%
	Movies and series	2	1%
	I am not a smoker	120	58.5%

Comment: The primary reasons for smoking are peer influence (22%) and curiosity (15.6%), with a smaller percentage citing family influence (2%) and media influence (1%).

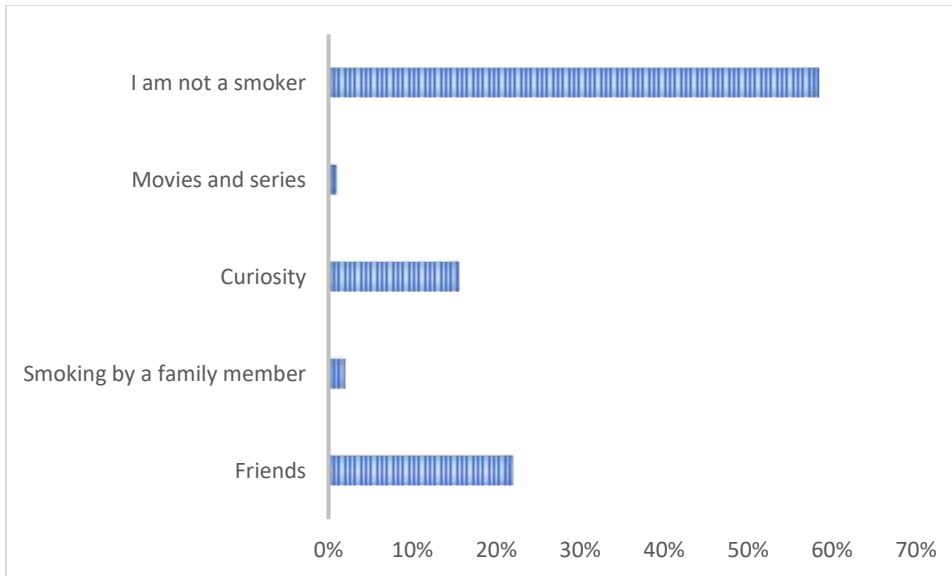


Figure 3: Reasons for Smoking

Comment: Data are based on self-reported responses from 205 students. The pie chart illustrates that among those who smoke, 22% cited peer influence, 15.6% reported curiosity, 2% indicated family smoking, and 1% mentioned movies/series as reasons for their smoking behavior. The response category “I am not a smoker” (58.5%) is included for overall sample completeness.

Table 4: Most Important Source of Health Information for Students (N: 205)

Variable	Sub-variable	Frequency	Percentage
What is the most important source of your health information?	Health workers	72	35.1%
	Social media	50	24.4%
	Internet	65	31.7%
	Books	4	2%
	TV	8	4%
	The radio	2	1%
	Newspapers and magazines	2	1%

Comment: Health workers are the primary source of health information (35.1%), followed by the internet (31.7%) and social media (24.4%).

Table 5: Students' Desire to Quit Smoking and Their Reasons (N: 78)

Variable	Sub-variable	Frequency	Percentage
During the next three months, would you like to quit smoking?	Yes	55	70%
	No	23	30%
If yes, what are the reasons that make you think about quitting smoking?	Smoke price increase	10	12%
	Health effects	39	50%
	Wasted money	22	28%
	Smoking is hateful	7	10%
Did the increase in the tax on smoke affect your smoking?	Yes, I reduced my daily smoke	33	42.4%
	No	45	57.6%

Comment: A majority (70%) of smokers expressed a desire to quit within the next three months, citing primarily health concerns (50%) and financial reasons (28%). Approximately 42.4% reduced their smoking due to increased taxes on tobacco.

Table 6: Side Effects of Smoking According to Student Opinion (N: 205)

Variable	Sub-variable	Frequency	Percentage
Does smoking have any side effects?	Yes	161	78.5%
	No	44	21.5%

Comment: A significant majority (78.5%) of students believe that smoking has side effects.

Table 9: Number of Cigarettes Smoked Per Day (N: 205)

Variable	Sub-variable	Frequency	Percentage
Do you smoke regularly?	Yes	39	19%
	No	166	81%
If yes, how many cigarettes do you smoke per day?	Less than 10	22	35%
	10-20	9	15%
	More than 20	7	11%
	Smoke other than cigarettes	24	12%
If you are currently a smoker or have smoked before, how old were you when you started smoking your first cigarette?	Less than 10	11	12%
	10-15	19	21%
	More than 15	62	67%
If you are currently a smoker, do you want to quit smoking in the next 6 months?	Yes	44	69%
	No	20	31%

Comment: Most regular smokers (19%) smoke less than 10 cigarettes daily (35%). The majority of smokers started smoking after the age of 15 (67%). Additionally, 69% of current smokers expressed a desire to quit smoking within the next six months.

Discussion:

The aim of this study was to assess smoking behaviors and the influencing factors among Jazan University students and to propose a framework for targeted cessation initiatives. Our findings indicate a high prevalence of smoking in this population, with 48.8% having ever smoked and 38% identified as current smokers. Notably, the majority of current smokers were male (69.3%) and in the age group of 20–25 years (65.9%), which is consistent with previous research in Saudi Arabia (Abdullah et al., 2014; Kim et al., 2018). However, our prevalence estimates appear to be slightly elevated compared to some earlier studies, suggesting that the existing public health measures may not be fully effective in this setting.

A detailed analysis of socio-demographic factors revealed that gender plays a significant role in smoking behavior. The predominance of smoking among male students mirrors findings reported by Al-Haqwi et al. (2010) and Tucktuck et al. (2017), where sociocultural norms and peer dynamics contribute substantially to male smoking habits. In our study, 22% of respondents identified peer influence as the main reason for smoking, while 15.6% reported curiosity. These findings align with the social learning theory, which posits that behaviors such as smoking are adopted through observation and imitation of social contacts (Leonardi-Bee et al., 2011; Harakeh & Vollebergh, 2012).

Despite a high level of awareness regarding the harmful health effects of smoking—78.5% of students acknowledged its risks—a notable 19% of respondents continued to smoke. This apparent discrepancy between knowledge and behavior underscores the complexity of smoking as a social and psychological phenomenon. Factors such as stress, anxiety, and the influence of peer and familial environments may counteract the impact of health education alone (Allem et al., 2015).

Economic determinants also emerged as an influential factor in smoking behavior. Our data revealed that 42.4% of students reported reducing their smoking in response to increased tobacco taxes. This finding supports the conclusions of Goodchild et al. (2018) and the policy recommendations by Chaloupka et al. (2011), suggesting that fiscal measures are an effective component of broader tobacco control strategies.

In addition to peer and economic influences, our findings—though less pronounced—indicate that family smoking habits may also contribute to smoking initiation. Previous research by Almutairi (2014) has shown that parental smoking is a strong predictor of youth smoking, signaling the potential benefit of family-based interventions.

Collectively, the results indicate that effective smoking cessation programs at the university level must adopt a multifaceted approach. Such programs should integrate economic disincentives (e.g., through tobacco taxation), behavioral support aimed at mitigating stress and countering peer pressure, and family-based intervention strategies. These comprehensive methods are likely to address both cognitive and non-cognitive determinants of smoking behavior.

Limitations

It is important to acknowledge that the cross-sectional design of this study limits causal interpretations. Additionally, the reliance on self-reported data may introduce biases related to social desirability and recall. Future research should consider longitudinal designs and objective measures of tobacco use to strengthen causal inference and validate our findings further.

Conclusion

This study highlights a considerable prevalence of smoking among Jazan University students and identifies key influencing factors, including gender, peer pressure, and economic influences. Despite high awareness of the detrimental health effects of smoking, these factors appear to impede behavioral change. The findings underscore the necessity for integrated cessation initiatives that not only inform students about health risks but also address the social and economic dimensions of smoking behavior. Future research should evaluate the long-term efficacy of multifaceted intervention strategies and explore the role of family-based support in preventing smoking initiation. The practical implications of this research extend to policymakers and university administrators, who must consider these diverse factors when designing targeted smoking cessation programs to curb the public health burden associated with tobacco use.

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