

Knowledge, Attitudes, and Practices Regarding different aspects of Tobacco among Students from El-Imam El-Mahdi University in Sudan

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Abstract:

Background: Tobacco usage is considered public health concern that is leading to problems, economic costs, billions in healthcare expenses, and lost productivity for both users.

Objectives: To investigate the knowledge, attitudes, and practices regarding different aspects of tobacco among students from El-Imam El-Mahdi University in Sudan. **Subjects and**

methods: This is a descriptive cross-sectional study utilized a multistage probability sampling approach. The sample size was 359 students, who were selected from total of 3168 students at El-Imam El-Mahdi University, from March to June 2023. Using revised questionnaire based on the Global Adult Tobacco Survey by the World Health Organization. Data were analyzed using SPSS 22 with descriptive statistics for analyzing demographic characteristics. A one-sample *t*-test and one-way ANOVA were used to investigate the association between demographic variables, knowledge, attitudes, practices, and tobacco use. **Results:** The results showed that 39.0% of respondents were aged 18–20 years, and 52.1% had total monthly expenses less than 100 US\$. Most households had primary education levels. 32.0% of participants used tobacco, and 60.8% preferred cigarettes. 53.9% expressed health problems, and 81.7% intended to quit, but 63.3% faced challenges in cessation efforts. Factors positively associated with tobacco use included having users as friends ($B=0.153$; $p=0.000$) and facing health problems ($B=0.403$; $p=0.000$). Male users showed a slight association with increased use ($B=0.021$; $p=0.262$). **Conclusion:** The study outcomes could direct the formation of regulations and interventions to decrease tobacco usage amongst university students by addressing knowledge gaps, attitudes, and practices through adapted educational programs and support systems.


Keywords: Cigarette smoking; Nicotine dependence; Students; Tobacco use.

Introduction

Tobacco is the leading cause of preventable deaths globally and results in the deaths of approximately half of its regularly

users. ⁽¹⁾ It is a major public health concern and is linked to numerous diseases and high mortality rates. ^(2, 3) The World Health Organization (WHO) reported that tobacco

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kills over 8 million individuals annually, including an estimated 1.3 million non-smokers. ⁽⁴⁾

While smoking rates have declined in high income-countries, they remain a concern in low- and middle-income countries due to aggressive tactics by tobacco companies, with around 80% of the world's 1.3 billion users residing in these countries. ^(5, 6, 7)

In 2022, 22.3% of the global population used tobacco, with 36.7% of men and 7.8% of women being users. ^(8, 9) Smoking is a leading cause of cancers and other health problems. ^(10, 11) Second-hand smoke causes approximately 41,000 deaths from lung cancer and heart disease annually among adults in the United States. ⁽¹²⁾ Nearly 65,000 children die annually due to illnesses related to second-hand smoke. ⁽¹³⁾

Nicotine, the principal addictive substance in tobacco products, is widely recognized for driving continued tobacco use and constitutes approximately 0.6–3% of the dry weight of tobacco. ^(8, 14, 15)

Nicotine addiction involves drug-reinforced behaviors, compulsive use, and relapse following abstinence. ⁽⁹⁾ Various factors influence tobacco use among youth, such as demographic characteristics, parents and friends' tobacco use, accessibility and price of products, mental health issues, socioeconomic status, parental support,

academic performance, and exposure to tobacco advertising. ^(16, 17)

Studies in Sudan have shown tobacco use ranging from 1 to 25% of adolescents and adults, with cigarettes being the most common form (10, 11). Healthcare professionals play a crucial role in providing tobacco cessation interventions ^(18, 19, 20, 21).

Previous research has revealed an increasing trend of initiating smoking among individuals aged 15–24 years ⁽²²⁾. Furthermore, studies have shown negative attitudes towards smoking initiation, and a significant proportion of participants recognize the harmful effects of smoking and the importance of cessation. ^(23, 25, 26)

This study assessed the knowledge, attitudes, and practices related to tobacco use among students at El-Imam El-Mahdi University in Sudan. The results could contribute to public health strategies aimed at reducing tobacco-related harm among young adults in Sudan.

Subjects and methods

Study design

The design involved a multistage probability sampling with descriptive cross-sectional using face-to-face administration collated by trained field investigators for participants literary and non-literary. This study was carried out on University students El-Imam El-Mahdi University, White Nile State, Sudan. Between March 2023 and June



2024, there were 3168 student enrollments at the university where sample size was chosen.

Samples and Sampling Techniques

The university consisted of twelve colleges and were grouped into four clusters based on their field: public health, economics, community development, and arts (Table 3). One college was then randomly selected from each of these clusters as the study college.

Our sample selection from each college randomly for the different academic years was simple systematic random sampling using equal numbers. Adopting this method further facilitated including various students at various phases in their school life.

Where n is the sample size:

$$n = Z^2 p (1 - p) / E^2$$

In this formula:

Where, n = required sample size

Z , the Z -score of the desired confidence level

P is the estimated proportion of people in a population who have some characteristic (for example, are pyromaniacs),

E is the acceptable margin of error for your study.

When a correction for finite population size was applied, the final calculated sample size was 359 students.

Data collection approach

Revised GATS questionnaire: The adapted and revised Global Adult Tobacco Survey (GATS) -questionnaire by the World Health Organization was used to collect information on demographic variables, knowledge of smoking risks, exposure to secondhand smoke, tobacco use behavior, and attitudes towards smoking.

Statistical Analysis

Statistical analyses were done by using the IBM SPSS Statistics for Windows, version 22. Descriptive statistics was performed to evaluate demographic data (age, socioeconomic status, and household education).

The association of respondents' demography, tobacco knowledge, and tobacco use was examined using one-way ANOVA. An independent sample one-sample t -test has been used to compare the age of groups means, monthly expenses, and Nationality by Level of Household Education) Attitudes were measured by a 5-point Likert scale and practices in descriptive, bivariate relationship statistics as well as regression analyses. Significance was defined as a $p < 0.05$ (statistically significant at the 95 % confidence level) with F -values and associated p -values identified above each set, respectively.

Inclusion criteria's

The participants have to be: Male students in El-Imam El-Mahdi University



year 2023–2024, because the society is conservative (They can marry only one woman).

Ethical considerations

The research protocol was approved by the Ethics Committee of El-Imam El-Mahdi University in Sudan, with a reference number EMU 2078/23. Before this study, official permission and written informed consent was taken from all students before participation. All provided information remained completely confidential.

Results

Figure 1 displays the age distribution of respondents. The majority were in the range of 18–20 years (39%) and 21–23 years (38.4%). Over half of the students (52.1%) reported monthly expenditures of less than USD 100, and the maximum household educational level was primary school for 39.6%.

Table 1, shows that the majority (72.1%) of respondents knew the harmful effects of tobacco use; 27.9% considered it as not harmful. Specific concerns included cancer (29%), blood pressure issues (22.6%), breathing effects (14.8%), kidney effects (12.5%), and accidents (6.1%).

Knowledge on passive smoking was divided, with 34% recognizing its negative effect on non-smokers. A considerable

majority (73.8%) were aware of the addictive components in tobacco.

Only 47.6% knew that tobacco use increases mortality and morbidity rates among users. Acceptance of tobacco use in communities was divided, with 36.8% considering it acceptable and 63.2% not accepting it.

Table 2 shows that 42.1% of respondents agree or slightly agree that smoking poses health risks, while 36.8% are neutral. Regarding the social acceptability of smoking in public spaces, 46.2% disagree or slightly disagree, while 41.7% agree or slightly agree.

The statistical significance is $p < 0.05$. Responses on whether smoking motivates others to smoke are mixed, with 35.9% agreeing and 37.3% disagreeing or slightly disagreeing, with a non-significant p-value ($p > 0.05$).

Opinions on government regulations are divided, with 33.7% slightly agreeing and 24% agreeing, while a combined 31.8% disagree or slightly disagree, with a non-significant p-value ($p > 0.05$). A significant finding is that 54% agree or slightly agree on the effectiveness of anti-tobacco campaigns, with a p-value of < 0.05 .

Table 3 reveals that 32.0% of targets used tobacco, mainly cigarettes (60.8%), and

followed by water pipes, snuff, and e-cigarettes. Most users had been using tobacco for over two years, with family and friends also using tobacco. Many users experienced health issues (53.9%) and expressed a desire to quit (81.7%) but faced difficulties (66.1%).

Table 4 demonstrates that age, monthly expenses, education level, belief in tobacco harm, understanding of tobacco harm, and community acceptance influence tobacco use. Community acceptance had the strongest influence on individual usage, while media campaigns do not significantly affect usage status.

Table 5, shows that younger students (18–20 years) had lower opinion scores for tobacco health threats (2.67) compared to older age students (21–23 years: 2.84; 24+ years: 2.85).

Younger students also show higher acceptance of smoking in public places (mean = 3.80) compared to older age groups (21–23 years: 3.73; 24+ years: 3.67). Younger students are more expected to encourage smoking among peers (mean = 2.97) and had lower acceptance of government regulations on tobacco (mean = 2.55) compared to older age groups.

Those with expenditure less than \$100 per month on tobacco products had higher

mean scores for attitudes of health risks (mean = 2.81) and attitudes towards anti-tobacco campaigns.

Mean scores of household education levels varied across income brackets: households earning less than USD 100 had a mean score of 2.81, those earning \$100–200 USD had a mean score of 2.87, and the maximum income range (\$201–300+) had a mean score of 2.59.

Discussion

The study results indicated that the majority of participants were in the age group of 18–23 years, comprising 77.4% of the sample. This aligns with previous research on smoking prevalence among Saudi adolescents, which highlighted increased initiation of smoking among individuals aged 15–24 years ⁽²²⁾.

Additionally, more than half of the students reported monthly expenses of less than \$100 US, indicating possible economic constraints that could affect tobacco purchasing behavior and access to cessation resources.

A significant percentage of students came from households with lower educational levels, with nearly 57% having only a primary school education or being illiterate. This lack of education may contribute to

lower awareness of tobacco risks and influence smoking behaviors.⁽⁸⁾

Research has emphasized the role of demographic characteristics and socioeconomic status in determining tobacco use among youth.^(16, 17)

Nearly 72.1% of students knew the health risks associated with tobacco use, while 27.9% said there was no harm. Only 8.1% identified cancer as a threat, with others mentioning blood pressure issues, respiratory problems, accidents, or unspecified harm.

This is consistent with findings from other studies that have highlighted varying levels of awareness about the health risks of smoking among college students.^(24, 29) Almost 73% of respondents appropriately acknowledged tobacco products as containing addictive materials.

However, 47% of the participants were aware of the risks of tobacco, while 52.4% lacked understanding or awareness of its effects, indicating a need for targeted public health campaigns to reach those who are unaware or uncertain about the consequences of tobacco use.

A substantial percentage of respondents (36.8%) maintained a neutral stance on the health risks related to smoking, while only 29.8% agreed with the perception of these

risks, suggesting a potential gap in awareness of smoking hazards.

This aligns with results from similar studies, which have shown that public appreciation of health risks can vary widely based on demographic factors and exposure to educational campaigns.⁽²⁶⁾ As for social norms, a significant 46.2% disagreed with the concept that smoking in public places is acceptable, reflecting an increasing societal shift towards anti-smoking opinions.

Attitudes towards government regulations showed mixed opinions, with some supporting regulations (24%) and a significant proportion (24.8%) disagreeing. This highlights the ongoing debate about governmental roles in tobacco control.

Opinions on anti-tobacco campaigns were mainly positive, with agreement rates exceeding 54%. This indicates the effectiveness of such campaigns in reducing tobacco use when adequately funded and implemented. 32% of respondents reported using tobacco, with the majority using cigarettes. Other forms of tobacco used included water pipes, snuff, and e-cigarettes, suggesting that traditional cigarette smoking is prevalent among students.

The results emphasized the influence of social factors on smoking behaviors, with a substantial percentage of participants having

family members and friends who smoke.^(8, 10, 25, 27) This indicates that peer pressure and family habits are significant factors influencing smoking initiation and continuation among young adults.

The results highlighted the importance of education and support in helping individuals quit smoking, with 81.7% expressing a desire to quit, indicating an opportunity for tailored cessation programs.

However, challenges such as addiction and social pressures were identified as obstacles in quitting smoking, underscoring the need for comprehensive support systems in cessation programs.⁽³⁰⁾

The study also examined the influence of demographic variables on respondents' tobacco knowledge and usage behaviors, showing that economic factors and community norms play significant roles in determining tobacco use behavior. Age, education, and general health beliefs did not show significant effects.

The data showed variations in perceptions of health risks associated with smoking across different age groups and monthly expense levels. Individuals aged 18–20 years had a moderate awareness score of 2.67, while those aged 21–23 years showed slightly higher awareness with a score of 2.85.

The oldest group (24+ years) also had a mean score of 2.85, indicating stable or slightly increasing awareness with age. Social norms regarding smoking in public places were consistent across age groups, with mean scores ranging from 3.67 to 3.80.

Motivations to smoke were influenced by social norms and personal attitudes towards government regulations, with younger individuals (18–20 years) showing a mean score of 2.97 for motivations to smoke, while those aged 21–23 years reported a lower mean score of 3.22. This indicates a shift towards less inclination to smoke as individuals grow older.

Attitudes towards government regulations varied across age groups, with younger respondents showing higher support for interventions aimed at reducing smoking rates.

The effectiveness of anti-tobacco campaigns differed based on age group and monthly expenses, with those spending more on tobacco products perceiving anti-tobacco campaigns as less effective due to established habits. The analysis also explored the relationship between household income levels and attitudes towards tobacco use and showed varying perceptions across different income brackets.

Research indicates that socioeconomic factors significantly influence attitudes

towards health-related behaviors, including tobacco use. Higher education and income levels are associated with more negative perceptions of smoking and increased awareness of health risks, while lower education levels may lead to more permissive attitudes towards smoking.

Overall, the data highlight significant differences in perceptions related to health risks, social norms, and motivations to smoke, government regulations, and the effectiveness of anti-tobacco campaigns across age groups and financial backgrounds.

Conclusion

The study highlights that, although respondents are aware of the harmful effects of tobacco, their usage behaviors are influenced by social factors and personal health experiences.

Results indicated that Sudanese university students express a strong desire to stop smoking, but factors like socio-economic status, peer pressure, and education level affect their views on tobacco use and quitting.

These findings can guide the development of policies and interventions to reduce tobacco use among young adults in universities by addressing knowledge gaps, attitudes, and behaviors through targeted educational programs and support systems.

Study limitation

1. Self-reported data bias: Reliance of self-reported data can introduce bias affecting the validity of the finding
2. Cross-sectional design the study snapshot design limit the ability to establish causal relationships or tracking change over time
3. Lack of longitudinal data hinders the understanding of change in tobacco use patterns among students
4. Culture influence in Sudan may affect the results

Author contributors: I am a sole author for this study

Competing of interest: No competing of interest

Funding source: None

Acknowledgement:

I would like to express my gratitude to everyone who played a part in the successful completion of this study. Firstly, I am thankful to Allah for granting me the strength, patience, and determination to finish this research. I am also grateful to the students of Imam Mahdi University who willingly participated in the study despite the challenging circumstances in our country.

References:

1. Tahir MZ. Smoking and its risks in Saudi Arabia: Literature review. Hamdan Med J. 2019; 12(4):152-157. https://doi.org/10.4103/HMJ.HMJ_7_18



2. Teh CH, Rampal S, Lim KH, Azahadi O, Tahir A. Age, period, and cohort analysis of smoking intensity among current smokers in Malaysia, 1996-2015. *Nicotine Tob Res* 2023; 25(7):1340–1347. <https://doi.org/10.1093/ntr/ntad035>
3. Samet JM. Tobacco smoking: the leading cause of preventable disease worldwide. *Thorac Surg Clin*. 2013; 23(2):103–112. <https://doi.org/10.1016/j.thorsurg.2013.01.009>
4. Le Foll B., Piper M. E., Fowler, C. D. Tobacco and nicotine use. *Nature Reviews Disease Primers*. 2022 8(1):19 <https://doi.org/10.1038/s41572-022-00346-w>
5. World Health Organization (WHO). WHO Global Report on Trends in Prevalence of Tobacco Use 2000–2030. World Health Organization (WHO); 2024:144 Accessed June 2, 2024. <https://iris.who.int/bitstream/handle/10665/375711/9789240088283-eng.pdf?sequence=1>
6. Alasqah I., Mahmud I., East L. *et al.* A systematic review of the prevalence and risk factors of smoking among Saudi adolescents 2022. *Saudi Medical Journal*, 40(9): 867–878. <https://doi.org/10.15537/smj.2019.9.24477>
7. Adler N. E., Ostrove J. M. Socioeconomic status and health: What we know and what we don't. *Annals of the New York Academy of Sciences* 1999.
8. World Health Organization . Report on tobacco key facts; 2023. Available from: [WHO Tobacco Key Facts](#)
9. CBC News. Report on smoking; 2018. Available from: [CBC Smoking Economic Cost](#)
10. Qashoti, M. R., Aljassim, R., Sherbash, M. A. *et al.* Tobacco cessation programs and factors associated with their effectiveness in the Middle East: A systematic review 2022. *Tobacco Induced Diseases*, 20, 84. <https://doi.org/10.18332/tid/153972>
11. Wakefield M., Flay B., Nichter M. *et al.* Role of the media in influencing trajectories of youth smoking. *Addiction (Abingdon)* 2003, 98(Suppl 1), 79–103. <https://doi.org/10.1046/j.1360-0443.98.s1.6.x>
12. Centers for Disease Control and Prevention (CDC). Health effects of secondhand smoke [Internet]. Atlanta: CDC 2024. [cited 2024 May 15]. Available from: <https://www.cdc.gov/tobacco/secondhand-smoke/health.html>
13. Naik P, Sajja R, Prasad S, Cucullo L. Oxidative and pro-inflammatory impact of tobacco smoke products on blood-brain barrier endothelial cells. *Free*



- Radic Biol Med. 2013; 65(S146). Available from: <https://doi.org/10.1016/j.freeradbiomed.2013.10.765>
14. Mallah MA, Soomro T, Ali M, *et al.* Cigarette smoking and air pollution exposure and their effects on cardiovascular diseases. *Front Public Health.* 2023; 11:967047. Available from: <https://doi.org/10.3389/fpubh.2023.967047>
 15. Igarashi A., Aida J., Sairenchi T. *et al.* Does cigarette smoking increase traffic accident death during a 20-year follow-up in Japan. The Ibaraki Prefectural Health Study 2019. *Journal of Epidemiology,* 29(5):192–196. <https://doi.org/10.2188/jea.JE20170330>
 16. Wakefield M., Flay B., Nichter M. *et al.* Role of the media in influencing trajectories of youth smoking 2003. *Addiction (Abingdon),* 98(Suppl 1), 79–103. <https://doi.org/10.1046/j.1360-0443.98.s1.6.x>
 17. Todorović I., Cheng F., Stojisavljević S. *et al.* Prevalence of cigarette smoking and influence of associated factors among students of the University of Banja Luka: A cross-sectional study 2022. *Medicina (Kaunas),* 58(4): 502. <https://doi.org/10.3390/medicina58040502>
 18. Mahajan S. D., Homish G. G., Quisenberry A. Multifactorial etiology of adolescent nicotine addiction: a review of the neurobiology of nicotine addiction and its implications for smoking cessation pharmacotherapy 2021. *Frontiers in Public Health,* 9, Article 664748. <https://doi.org/10.3389/fpubh.2021.664748>
 19. Sakka S., Al-Shatanawi T. N., Bataineh, D. Z. *et al.* Knowledge, attitude, practice and perceived barriers towards smoking cessation services among community pharmacists 2021. *Pharmacy Practice,* 20(1), Article 2637. <https://doi.org/10.18549/PharmPract.2022.1.2637>
 20. Rudolph C.W., Rauvola R.S., Costanza D.P. *et al.* Generations and generational differences: Debunking myths in organizational science and practice and paving new paths forward 2021. *Journal of Business Psychology,* 36(6), 945–967. <https://doi.org/10.1007/s10869-020-09715-2>
 21. Conger R. D., Conger K. J., Martin, M. J. Socioeconomic status, family processes, and individual development. *Journal of Marriage and Family.* 2010; 72(3): 685–704. <https://doi.org/10.1111/j.1741-3737.2010.00725.x>



22. Alasqah I., Mahmud I., East L. *et al.* A systematic review of the prevalence and risk factors of smoking among Saudi adolescents 2019. *Saudi Medical Journal*, 40(9): 867–878. <https://doi.org/10.15537/smj.2019.9.24477>
23. Raina R., Krishna M., Murali R., *et al.* Knowledge, attitude and behavioral determinants of tobacco use among 13-15 year old school children 2015. *Journal of International Society of Preventive Community Dentistry*, 5(4): 321–326. <https://doi.org/10.4103/2231-0762.161764>
24. American College Health Association. National college health assessment II: Reference group executive summary spring 2021. Available from: https://www.acha.org/documents/ncha/NCHA-II_Spring_2021_Reference_Group_Executive_Summary.pdf (2021).
25. Kuwalairat P, Sornkate R, Winit-Watjana W. Inhabitants' attitudes towards smoking and their perceptions of smoking cessation campaigns in the communities. *Tob Induc Dis.* 2021;19(1):A285. <https://doi.org/10.18332/tid/141613>
26. Mustafa N, Bashir A, Sohail R, *et al.* Knowledge, attitude, and practice of cigarette smoking among medical students of Quaid-e-Azam Medical College, Bahawalpur: A web-based cross-sectional study. *Cureus.* 2023; 15(10):e46459. <https://doi.org/10.7759/cureus.46459>
27. Osman B., Osman B. Cigarette smoking among Kassala University students: Prevalence and associated factors 2023. *Egyptian Journal of Health Care*, 14(3):254-263. Retrieved from https://ejhc.journals.ekb.eg/article_314954_320ae14668677ab8f4b5021102429a8f.pdf
28. Chao D., Hashimoto H., Kondo N. Social influence of e-cigarette smoking prevalence on smoking behaviours among high-school teenagers: Microsimulation experiments 2019 . *PLOS ONE*, 14(8): e0221557. Retrieved from <https://doi.org/10.1371/journal.pone.0221557>
29. Random Allocation Software. Retrieved from <https://mahmoodsaghaei.tripod.com/Softwares/ranalloc.html>
30. World Health Organization (WHO). Report on the global tobacco epidemic 2021: Addressing new and emerging products. Available from: <https://www.who.int/publications/i/item/9789240032095>



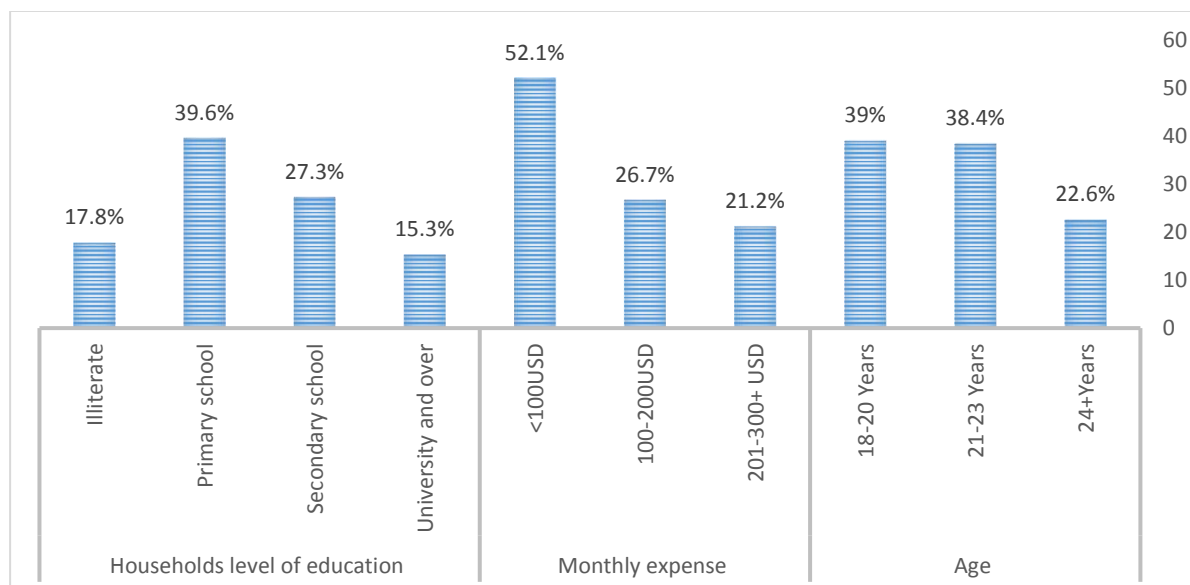


Figure (1): Distribution of Respondents by Demographic Characteristics (Age, Monthly Expense, and Household Level of Education)

Tables

Table (1): Respondents' Knowledge Regards Various Aspects of Tobacco (n=259)

| Variables | | Frequencies | Percentage | Mean Square | F | Sig. |
|---|---------------------|-------------|------------|-------------|---------|-------|
| Do tobacco used considered harmful to health | Yes | 259 | 72.1% | 0.143 | 0.711 | 0.492 |
| | No | 100 | 27.9% | | | |
| What kind of harm caused by tobacco used | No harm | 100 | 27.9% | 235.451 | 178.432 | 0.000 |
| | Cancer | 29 | 8.1% | | | |
| | Blood pressure | 81 | 22.6% | | | |
| | Respiratory effects | 53 | 14.8% | | | |
| | Kidney effect | 45 | 12.5% | | | |
| | Fair accidents | 22 | 6.1% | | | |
| Do the passive smoking effects non smokers | Others | 29 | 8.1% | 1.708 | 2.641 | 0.073 |
| | Yes | 122 | 34.0% | | | |
| | No | 125 | 34.8% | | | |
| | Don't know | 112 | 31.2% | | | |
| Do tobacco contain addictive components | Yes | 265 | 73.8% | 0.883 | 4.648 | 0.010 |
| | No | 94 | 26.2% | | | |
| Do tobacco used increased users mortality and morbidity | Yes | 171 | 47.6% | 0.960 | 1.565 | 0.210 |
| | No | 113 | 31.5% | | | |
| | Don't know | 75 | 20.9% | | | |
| do tobacco used accepted in your community | Yes | 132 | 36.8% | 33.825 | 761.378 | 0.000 |
| | No | 227 | 63.2% | | | |



Table (2): Respondents' Attitudes Regards Various Aspects of Tobacco (n=259)

| Variables | | Frequencies | Percentages | Mean Square | F | Sig. |
|---|-------------------|-------------|-------------|-------------|-------|-------|
| Opinions regards health risks related to tobacco use | Slightly agree | 44 | 12.3% | 4.941 | 8.732 | 0.000 |
| | Agree | 107 | 29.8% | | | |
| | Neutral | 132 | 36.8% | | | |
| | Disagree | 36 | 10.0% | | | |
| | Slightly disagree | 40 | 11.1% | | | |
| Social norms regarding smoking in public places. | Slightly agree | 32 | 8.9% | 5.001 | 3.942 | 0.020 |
| | Agree | 46 | 12.8% | | | |
| | Neutral | 69 | 19.2% | | | |
| | Disagree | 46 | 12.8% | | | |
| | Slightly disagree | 166 | 46.2% | | | |
| Motivates others to smoke | Slightly agree | 23 | 6.4% | .523 | .273 | 0.762 |
| | Agree | 129 | 35.9% | | | |
| | Neutral | 73 | 20.3% | | | |
| | Disagree | 43 | 12.0% | | | |
| | Slightly disagree | 91 | 25.3% | | | |
| Attitudes towards government regulations on tobacco products. | Slightly agree | 121 | 33.7% | 1.641 | .946 | 0.389 |
| | Agree | 86 | 24.0% | | | |
| | Neutral | 38 | 10.6% | | | |
| | Disagree | 89 | 24.8% | | | |
| | Slightly disagree | 25 | 7.0% | | | |
| Opinions on the effectiveness of anti-tobacco campaigns. | Slightly agree | 96 | 26.7% | 9.325 | 5.718 | 0.004 |
| | Agree | 98 | 27.3% | | | |
| | Neutral | 76 | 21.2% | | | |
| | Disagree | 54 | 15.0% | | | |
| | Slightly disagree | 35 | 9.7% | | | |

Table (3): Respondents' Practices Regarding Various Aspects of Tobacco Used

| Knowledge | Frequency (%) |
|--|----------------------|
| Do you use any tobacco products? | |
| Yes | 115(32.0) |
| No | 244(68.0) |
| Total | 359(100.0) |
| Tobacco products use most frequently? | |
| Cigarette | 70(60.8) |
| Water pipe | 11(9.7) |
| Snuff | 23(19.8) |
| e- Cigarette | 11(9.7) |
| Total | 115(100) |
| Tobacco use period | |
| 0 >6 Months | 6(4.3) |
| 6 →12 Months | 15(13) |
| 12 Months -2 years | 9(7.8) |
| More than 2 years | 85(74) |
| Total | 115(100) |
| Do any family members use tobacco? | |
| Yes | 75(65.2) |
| No | 40(34.8) |
| Total | 359(100.0) |
| Have any of your close friends used tobacco? | |
| Yes | 90(78.3) |
| No | 25(21.7) |
| Total | 115(100.0) |
| Are you facing health problems from smoking? | |
| Yes | 62(53.9) |
| No | 53(46.1) |
| Total | 115(100.0) |
| Do you intend to quit? | |
| Yes | 94(81.7) |
| No | 21(18.3) |
| Total | 115(100.0) |
| Facing obstacles from quitting tobacco use | |
| Yes | 76(66.1) |
| No | 39(33.9) |
| Total | 115(100.0) |

Table (4): Association between respondent's demographic characteristics and tobacco knowledge (n=259)

| Variables | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. | 95.0% Self-confidence Interval for B | |
|--|-----------------------------|------------|---------------------------|--------|------|--------------------------------------|-------------|
| | B | Std. Error | Beta | | | Lower Bound | Upper Bound |
| (Constant) | .250 | .086 | | 2.916 | .004 | .081 | .418 |
| Age | .023 | .017 | .038 | 1.413 | .159 | -.009 | .056 |
| Monthly expense | -.038 | .016 | -.065 | -2.447 | .015 | -.069 | -.007 |
| Highest level of household education | .009 | .012 | .018 | .746 | .456 | -.015 | .032 |
| Does tobacco use harm health? | -.031 | .024 | -.030 | -1.271 | .205 | -.078 | .017 |
| What health risks caused by tobacco use? | .013 | .006 | .054 | 2.295 | .022 | .002 | .025 |
| Passive smoking affects non-smokers. | .005 | .014 | .008 | .345 | .731 | -.023 | .033 |
| Do tobacco products contain addictive substances? | -.002 | .025 | -.002 | -.070 | .944 | -.052 | .048 |
| Does tobacco use increase mortality and morbidity among users? | .014 | .014 | .024 | 1.001 | .318 | -.014 | .042 |
| Do tobacco used accepted in your community | .867 | .023 | .896 | 37.298 | .000 | .821 | .913 |
| The tobacco commerce advertisement in media campaigns reinforcement habit to use | -.008 | .009 | -.023 | -.967 | .334 | -.025 | .009 |

a. Dependent Variable: do used any tobacco products

Table (5): Association between respondents demographic characteristics and attitudes towards different aspects of tobacco (n=259)

| Variables | | Perception of risks | Social norms of smoking in public places. | Motivates others to smoke | Attitudes of gov. regulation | Effectiveness of anti-tobacco campaigns. |
|-----------------|----------------|---------------------|---|---------------------------|------------------------------|--|
| Age groups | | | | | | |
| 18-20 Years | Mean | 2.671 | 3.807 | 2.971 | 2.557 | 2.450 |
| | N | 140 | 140 | 140 | 140 | 140 |
| | Std. Deviation | 1.0825 | 1.3134 | 1.2462 | 1.3796 | 1.2485 |
| 21-23 Years | Mean | 2.848 | 3.732 | 3.225 | 2.471 | 2.623 |
| | N | 138 | 138 | 138 | 138 | 138 |
| | Std. Deviation | 1.1392 | 1.4676 | 1.3346 | 1.4204 | 1.2968 |
| 24+ Years | Mean | 2.852 | 3.667 | 3.284 | 2.333 | 2.543 |
| | N | 81 | 81 | 81 | 81 | 81 |
| | Std. Deviation | 1.2156 | 1.3601 | 1.3896 | 1.2042 | 1.3698 |
| Monthly expense | | | | | | |
| <100USD | Mean | 2.813 | 3.786 | 3.048 | 2.476 | 2.390 |
| | N | 187 | 187 | 187 | 187 | 187 |
| | Std. Deviation | 1.1034 | 1.3187 | 1.2963 | 1.2965 | 1.2411 |
| 100-200USD | Mean | 2.865 | 3.729 | 3.313 | 2.510 | 2.729 |
| | N | 96 | 96 | 96 | 96 | 96 |
| | Std. Deviation | 1.1573 | 1.4688 | 1.3164 | 1.4363 | 1.2772 |
| 201-300+ USD | Mean | 2.592 | 3.671 | 3.145 | 2.421 | 2.658 |
| | N | 76 | 76 | 76 | 76 | 76 |
| | Std. Deviation | 1.1796 | 1.4366 | 1.3634 | 1.4167 | 1.4100 |
| Education level | | | | | | |
| <100USD | Mean | 2.813 | 3.786 | 3.048 | 2.476 | 2.390 |
| | N | 187 | 187 | 187 | 187 | 187 |
| | Std. Deviation | 1.1034 | 1.3187 | 1.2963 | 1.2965 | 1.2411 |
| 100-200USD | Mean | 2.865 | 3.729 | 3.313 | 2.510 | 2.729 |
| | N | 96 | 96 | 96 | 96 | 96 |
| | Std. Deviation | 1.1573 | 1.4688 | 1.3164 | 1.4363 | 1.2772 |
| 201-300+ USD | Mean | 2.592 | 3.671 | 3.145 | 2.421 | 2.658 |
| | N | 76 | 76 | 76 | 76 | 76 |
| | Std. Deviation | 1.1355 | 1.3822 | 1.3171 | 1.3573 | 1.2938 |



الملخص العربي

المعرفة والمواقف والممارسات المتعلقة بمختلف جوانب التبغ وسط الطلاب

بجامعة الامام المهدي بالسودان

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قسم الصحة العامة في جامعة الباحة بكلية العلوم الطبية التطبيقية

الخلفية: يعتبر استخدام التبغ قضية صحية عالمية ذات تأثير كبير مما يؤدي إلى مشاكل وانعكاسات وتداعيات اقتصادية متمثلة في زباده إنفاق المليارات من الدولارات في خدمات الرعاية الصحية، وفقدان الإنتاجية لكل من المستخدمين.

الهدف: تقصي المعرفة والمواقف والممارسات المتعلقة بالجوانب المختلفة للتبغ بين طلاب جامعة الإمام المهدي في السودان.

الطرق: تم إجراء دراسة وصفية كمية باستخدام عينة عشوائية عنقودية. كان حجم العينة ٣٥٩ طالبًا، تم اختيارهم من إجمالي ٣١٦٨ طالبًا في جامعة الإمام المهدي، من مارس إلى يونيو ٢٠٢٣. تم استخدام استبيان معدل بناءً على المسح العالمي لاستخدام التبغ لدى البالغين الذي أجرته منظمة الصحة العالمية. تم تحليل البيانات باستخدام برنامج الحزم الإحصائية للعلوم الاجتماعية SPSS 22 واستخدام إحصائيات وصفية لتحليل الخصائص الديموغرافية. تم استخدام اختبار t لعينة واحدة وتحليل التباين الأحادي (ANOVA) للتحقيق في العلاقة بين المتغيرات الديموغرافية والمعرفة والمواقف والممارسات واستخدام التبغ.

النتائج: أظهرت النتائج أن ٣٩,٠% من أفراد العينة تتراوح أعمارهم بين ١٨-٢٠ عامًا، و ٥٢,١% كانت نفقاتهم الشهرية الإجمالية أقل من ١٠٠ دولار أمريكي. كان المستوى التعليمي الابتدائي هو الغالب لمعظم أرباب الأسر. هنالك ٣٢,٠% من المشاركين يتعاطون التبغ، ويفضل ٦٠,٨% السجائر. وهنالك ٥٣,٩% افدوا بمعاناتهم من وجود مشاكل صحية، وهنالك ٨١,٧% لديهم النية للإقلاع، لكن ٦٣,٣% واجهوا صعوبات في محاولاتهم للإقلاع. كانت العوامل المرتبطة إيجابيًا باستخدام التبغ تشمل وجود مستخدمين كأصدقاء ($B=0.153$; $p=0.000$) ومواجهة مشاكل صحية ($B=0.403$; $p=0.000$) أظهر المشاركون الذكور ارتباطًا طفيفًا بزيادة الاستخدام ($B=0.021$; $p=0.262$).

الخاتمة: يمكن أن يستفاد من نتائج الدراسة في أعداد اللوائح والتدخلات لتقليل تعاطي التبغ وسط طلاب الجامعات من خلال معالجة القصور في المعرفة والمواقف والممارسات من خلال برامج تثقيفية موجهة وأنظمة وقوانين محفزة على الإقلاع.