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Socio-psychological risk factors that influence Smoking Prevalence among Youth in the United States of America

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Abstract

The smoking habit among youth is an active problem. In the United States, 11.1% of youths first smoked at age 10 years and below whereas 60.4% of school going children of age 16 year and more reported smoked a full cigarette. Retrospective U.S. national data on smoking prevalence indicates that daily active adult smokers started smoking before the age of 18 years. A cross-sectional study of 116,637 youths of ages 12-34 years was conducted across US states. Data was also sourced from Centers for Disease Control and Prevention, National Youth Tobacco Survey and U.S. Department of Health and Human Services. The socio-psychosocial risk factors investigated include contemplation of suicide, use of alcohol and drugs, level of strictness of parent or guardian, peer influence, awareness about dangers of smoking and level of self-esteem. Data analysis was done by use of Statistical Software for Social Sciences Version 25.0 Software. A significance level of p of <0.05 was used. Logit model was employed to determine of association between socio-psychosocial risk factors and smoking prevalence among youth in US. The significant psychosocial risk factors that predict smoking initiation among youth in US were identified as use of alcohol and drug, peer influence, awareness influence and self-esteem. A conclusion is therefore made that use of alcohol and drug, peer influence, awareness influence and self-esteem are significant psychosocial risk factors that influence smoking initiation among the youth. There is need for periodic educational awareness programmes for youth regarding use of alcohol and drug. Educational institutions including schools, colleges and rehabilitation centers need to further emphasize in teaching and creating awareness among youth on the dangers associated with smoking. There is also need for counseling sessions in school, churches and community levels for youth who may be facing problems related with low self-esteem. The counseling sessions should gear at identifying the causative factors and devise mechanism to create self-worth among the youth. In addition, parents, guardians, religious leaders and other community members need to work in coordination to identify peer influence among youth and advise accordingly to protect many youth from falling trap to peer influence for lack of awareness. There is also need to for correctional centers serviced by well-trained social personnel, psychologists to counsel and correct youth who are addicted to smoking.

Keywords: *Socio-psychological risk factors, Smoking Prevalence, Youth, USA*

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1. Introduction

The smoking habit among youth is an active problem. According to Goldade, Choi, Bernat, Klein, Okuyemi and Forster (2012), more than 80% of adults engaged in smoking habit before reaching the age 18 while 2/3 experimented with smoking by age 15. As per report by World Health Organization [WHO] (2020), an estimated 18% of young people aged 15 years smoke cigarette on weekly basis. It has believed that initiation of unto smoking among many smokers happened largely during adolescent stage where an estimated 40% of current smokers started smoking at adolescent stage. It has also been established that 88% of adult smoking on daily basis were first initiated into smoking by the age of 18 years (Heris, et al., 2020). It has been established that active initiation into tobacco smoking happens in the youthful stage of life and stoppage is so difficult in adulthood (Joffer, Burell, Bergström, Stenlund, Sjörs & Jerdén, 2014).

It is argued that social related factors contribute significantly to the initiation of smoking habit whereas individual-related factors are key predictors in smoking persistence (Wang, & Wu, 2020). According to WHO (2018), there is higher probability of smoking among young people especially if friends and peers are active smokers. The proximal social environment includes smoking influence by smoking friend being a significant predictor in initiating young people into smoking habit (Barrington-Trimis, et al., 2020) and susceptibility to smoking, the likelihood to smoke if offered. Parental influence, peer influence, living in house with active smoker and access to cigarettes from social setting are other significant proximal risk elements that triggers smoking habit according to Goldade, *et al.* (2012).

In the United States, 11.1% of youths first smoked at age 10 years and below whereas 60.4% of school going children of age 16 year and more reported smoked a full cigarette (Cantrell, *et al.*, 2018). Retrospective U.S. national data on smoking prevalence indicates that daily active adult smokers started smoking before the age of 18 years. As for 2019, 5.6 million under 18yers in USA smoke cigarette (Department of Health and Human Services, 2019). According to Centers for Disease Control and Prevention survey (2012) among adult smokers 30–39 years of age, 81.5% reported trying their first cigarette by the time they were 18 years of age, while an additional 16.5% did so by 26 years of age. Among adults who had ever smoked cigarettes daily, 88.2% reported trying their first cigarette by the time they were 18 years of age, while an additional 10.8% did so by 26 years of age. About two-thirds (65.1%) of adults who had ever smoked daily began smoking daily by 18 years of age, and almost one-third of these adults (31.1%) began smoking daily between 18 and 26 years of age. The target prevalence estimate referenced in Healthy People 2020 for current smoking among adolescents (in grades 9–12) is 16% and among adults (≥18 years old) is 12%. CDC, (2020) indicated that cigarette smoking was highest among people aged 18–44 years at 24.7%. Figure 1 shows smoking prevalence among youth aged 18-24 years 2011-2019.

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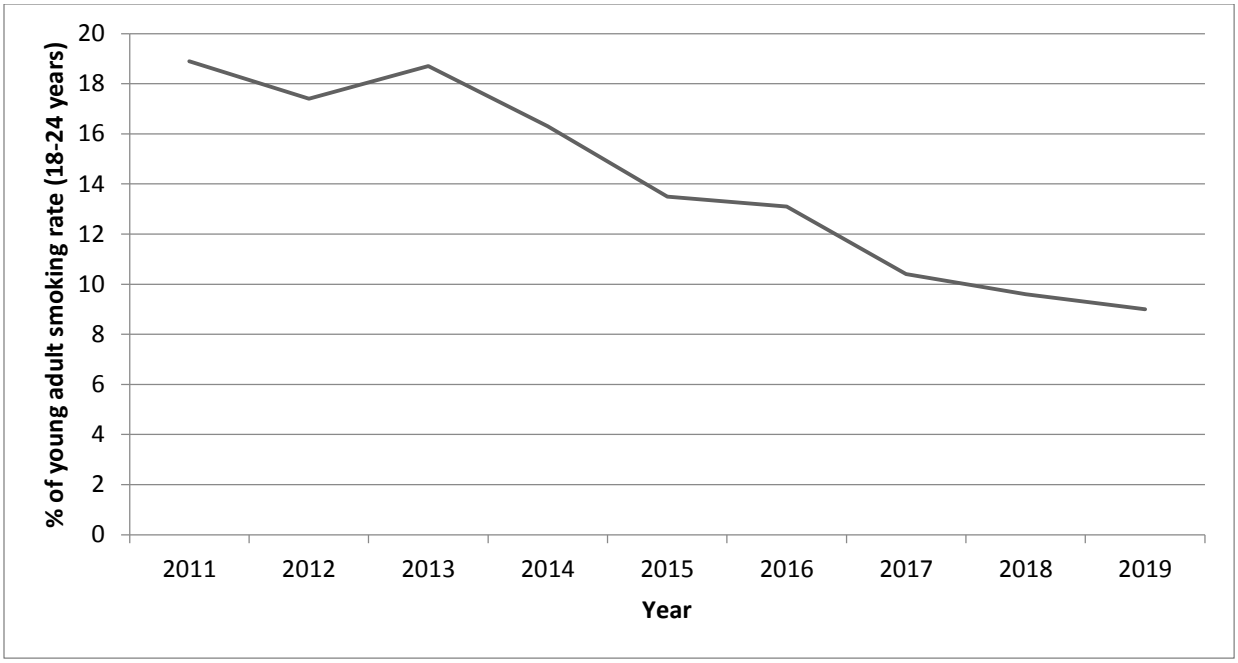

Figure 1: smoking prevalence among youth aged 18-24 years 2011-2019 in US

In 2017, 10.4 percent of young Americans aged 18-24 smoked cigarettes, according to the latest data on cigarette use from the National Health Interview Survey by the Centers for Disease Control and Prevention. That marks a 21 percent decline since 2016, when the young adult smoking rate was 13.1 percent, and a 45 percent decrease since 2011, when nearly 1 in 5 (18.9 percent) young adults smoked. The youth smoking rate has also dropped to historic lows. These declines underscore the importance of proven public health strategies, including well-funded and well-executed public education campaign. Figure 2 shows common tobacco products used by young people in the US.

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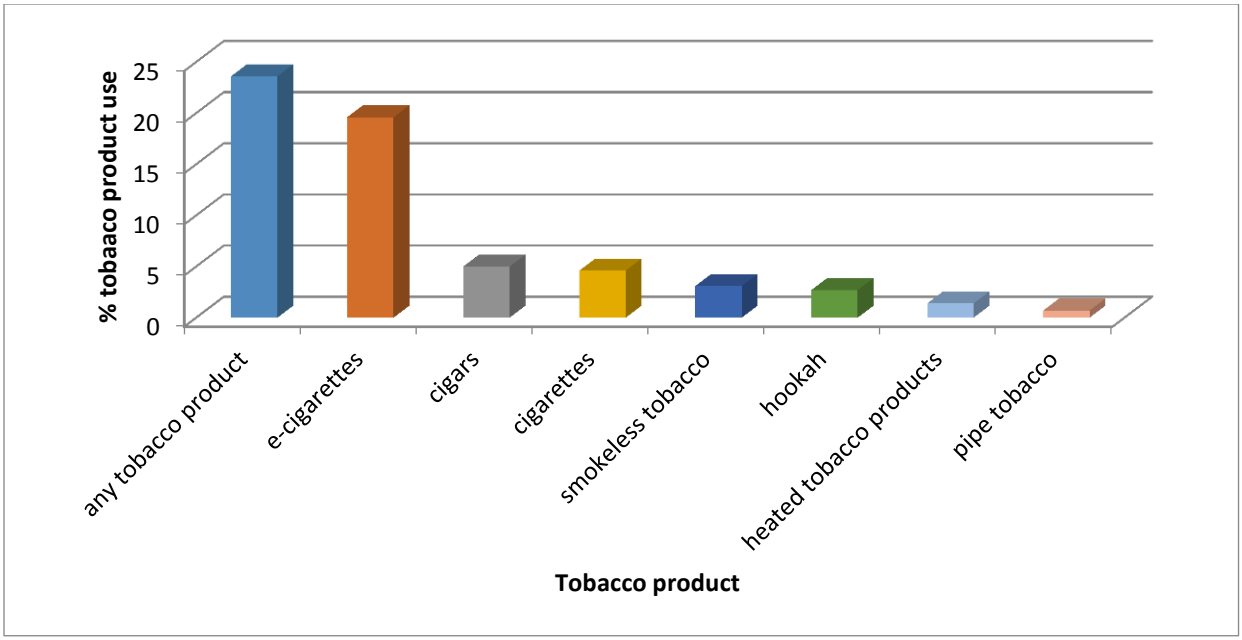

Figure 2: Tobacco product use by youth aged 18-24 years 2011-2019 in US

Source: National Youth Tobacco Survey, 2020

Figure 2 shows that any other tobacco product and e-cigarettes top among common tobacco products used by young people in the US. In 2020, any tobacco product includes electronic cigarettes, cigarettes, cigars, smokeless tobacco (including chewing tobacco, snuff, dip, snus, and dissolvable tobacco), pipe tobacco, bidis, hookah, and heated tobacco products.

2. Methods

A cross-sectional study of 116,637 youths of ages 12-34 years was conducted across US states. Data was also sourced from Centers for Disease Control and Prevention, National Youth Tobacco Survey and U.S. Department of Health and Human Services. The socio-psychosocial risk factors investigated include contemplation of suicide, use of alcohol and drugs, level of strictness of parent or guardian, peer influence, awareness about dangers of smoking and level of self-esteem. Data analysis was done by use of Statistical Software for Social Sciences Version 25.0 Software. A significance level of p of <0.05 was used. Logit model was employed to determine of association between socio-psychosocial risk factors and smoking prevalence among youth in US. A 5% level of confidence interval was employed to check the significance level of the model. Odds ratio was used to measure the likelihood of smoking based on socio-psychosocial risk factors.

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3. Results

A logistic regression model was fitted between smoking prevalence among youth in US against socio-psychosocial risk factors. Table 1 shows the model summary results.

Table 4.10: Logistic regression of smoking predictors

	Average marginal effects		Logit results		
Psychosocial Risk Factors	**(dy/dx)**	**S.E.**	**B**	**S.E.**	**Exp(B)**
Suicide(no)	-0.018	.153	0.078	0.664	1.082
Alcohol and drug(no)	-0.625***	.071	2.958***	0.503	19.259
Parent or guardian strictness(no)	0.059	.096	-0.255	0.426	0.775
Peer influence (no)	-0.443***	.078	1.958***	0.39	7.084
Awareness influence (no)	0.201**	.084	-0.862**	0.367	0.422
Self-esteem (high)	-0.236***	.085	1.084**	0.427	2.955
Constant			-0.974	1.678	0.378

*<p0.10, **p< 0.05, *** p < 0.01, Exp (B)/Odds ratio (OR)

The marginal effect of youth who do not use alcohol and drugs are -0.625 percentage points implying that youth who do not consume alcohol and drugs are 62.5% less likely to smoke compared to those who consume. The results imply that youth who use alcohol and drugs in relation to youth who do not use alcohol and drugs are more likely to smoke. Use of alcohol and drugs is highly associated with smoking initiation. Based on the results, use of alcohol and drugs is the greatest predictor of smoking among youth. Youth who drink alcohol and consume other drugs like bhang, cocaine and others are more likely to also smoke cigarette. The results agree with Joffer, *et al.* (2014) who investigated smoking predictors among adolescents in Sweden and found that adolescents who drink alcohol are more likely also to smoke. Also, Nowak, et al. (2018) revealed that adolescents who drink alcohol are more likely also to smoke.

Peer influence has a positive and significant association with smoking. The marginal effects of peer influence is -0.443 percentage points implying that youth not under peer influence are 44.3% less likely to smoke compared to youth under peer influence. Peer influence thus, is a significant predictor of smoking among the youth. The results imply that youth experiencing high peer influence to smoke in reference to youth with minimal peer influence are more likely to smoke. Peer influence is widely recognized as a crucial factor affecting young people's early experimentation with tobacco and their willingness to continue smoking. Peer influence compels many youth to try things they won't have done without pressure including smoking and other sorts of drugs. Under influence of peers, a youth would want to smoke as a proof to friends/peers that he/she is great and know about smoking and is not naïve. The results agree with Wellman, et al. (2016) studied predictors of smoking cigarette among youth using longitudinal study and found that peer influence, is a significant predictor of smoking. The results also concur with Mbongwe, *et al.* (2017) who investigated predictors of tobacco smoking among youth using a sample of 2554 youth from the GYTS and found that peer influence and self–esteem are strongest initiators of tobacco smoking among youth in Botswana. Also, Wang, and Wu (2020)

who investigated predictors of smoking among male adolescents in USA identified peer influence as a significant predictor of smoking initiation among youth.

Attending or listening to smoking awareness or sensitization programmes has a negative and significant association with smoking initiation. The marginal effects of youth without awareness about dangers of smoking is 0.201 percentage points implying that lack of awareness about smoking will result to 20.1% increase in smoking. The results imply that youth who attend or listen to smoking awareness and sensitization programmes in reference to youth who do not are 20.1% less likely to smoke. Smoking awareness or sensitization programmes can be inhibitors of smoking initiation among the youth. The awareness on the harmful effects associated with smoking is likely to reduce cases of smoking. Smoking awareness or sensitization programmes can be inhibitors of smoking initiation among the youth. Activities that involved youth may be important because they contributed to building awareness of smoking as a public health problem, increasing visibility of tobacco control efforts, and changing policies on youth access to tobacco. The results concur with Kaleta, Polanska, Wojtysiak and Szatko (2017) who investigated involuntary smoking in adolescents, their awareness of its harmfulness, and attitudes towards smoking in the presence of non-smokers and found that awareness on the health consequences of active smoking may reduce case of smoking among the youth.

Low self-esteem is positively and significantly associated with smoking initiation. The marginal percentage points for youth with high self-esteem is -0.236 implying that youth with higher self-esteem are less likely to smoke by 23. 6%. The results imply that youth with low self-esteem in reference to youth with youth with high self-esteem are more likely to smoke. Self-esteem among youth is a significant predictor of smoking among the youth. Self-esteem refers to oneself confidence and feeling of worth. However, when this special virtue is destroyed, or inadequate, someone feels less worth as human and may contemplate other actions to suppress this including smoking and drinking alcohol. Youth who are suffering low self-esteem may indulge to smoking to try cover-up on the feeling of shame, unworthy and dislike of oneself. According to Joffer, et al. (2014) who investigated smoking predictors among adolescents in Sweden, low self-esteem was identified as of predictors of smoking habit among the Swedish youth. Wellman, et al. (2016) while studying the predictors of smoking cigarette among youth using longitudinal study indicated that higher risk of smoking initiation is associated with low self-esteem. The results also concur with Mbongwe, *et al.* (2017) who investigated predictors of tobacco smoking among youth using a sample of 2554 youth from the GYTS and found that self–esteem is one of the strongest initiators of tobacco smoking among youth in Botswana.

4. Conclusion

The significant psychosocial risk factors that predict smoking initiation among youth in US were identified as use of alcohol and drug, peer influence, awareness influence and self-esteem. A conclusion is therefore made that use of alcohol and drug, peer influence, awareness influence and self-esteem are significant psychosocial risk factors that influence smoking initiation among the youth.

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5. Policy recommendation

Use of alcohol and drug, peer influence, awareness influence and self-esteem are significant psychosocial risk factors that predict smoking initiation among youth. There is need for periodic educational awareness programmes for youth regarding use of alcohol and drug. Educational institutions including schools, colleges and rehabilitation centers need to further emphasize in teaching and creating awareness among youth on the dangers associated with smoking. There is also need for counseling sessions in school, churches and community levels for youth who may be facing problems related with low self-esteem. The counseling sessions should gear at identifying the causative factors and devise mechanism to create self-worth among the youth. In addition, parents, guardians, religious leaders and other community members need to work in coordination to identify peer influence among youth and advise accordingly to protect many youth from falling trap to peer influence for lack of awareness. There is also need to for correctional centers serviced by well-trained social personnel, psychologists to counsel and correct youth who are addicted to smoking.

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