

Research Paper

The Impact of Peer Pressure on Adolescents' Smokeless Tobacco Use: An Exploratory Study

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ABSTRACT

Smokeless tobacco use among adolescents is a growing concern in Madurai, Tamil Nadu. This study examines the relationship between perceived peer pressure and smokeless tobacco use among adolescents. Data from 60 adolescents revealed that 40.00% reported low smokeless tobacco use, 33.33% moderate use, and 26.67% high use. Perceived peer pressure levels showed 46.67% experiencing low, 25.00% moderate, and 28.33% high levels. Correlation analysis indicated a significant positive relationship between perceived peer pressure and smokeless tobacco use ($r = 0.293$, $p = 0.019$). Regression analysis confirmed that perceived peer pressure significantly predicts smokeless tobacco use ($F(1, 58) = 14.653$, $p = 0.019$), with a standardized coefficient (β) of 0.293, explaining 8.6% of the variance ($R^2 = 0.086$). These findings underscore the need for targeted interventions addressing peer influence to reduce smokeless tobacco use among adolescents. School-based programs and parental awareness initiatives are recommended strategies for effective tobacco prevention.

Keywords: *Smokeless tobacco, adolescents, perceived peer pressure, peer influence, tobacco use*

Smokeless tobacco use among adolescents is a growing public health concern, particularly in regions where cultural and social norms significantly influence tobacco consumption behaviors. Adolescents, aged 13-19 years, are a vulnerable group often susceptible to initiating smokeless tobacco use due to various social influences, including peer pressure, family practices, and community norms (Gupta & Ray, 2003; Tomar, 2002). The use of smokeless tobacco, such as chewing tobacco and snuff, poses severe health risks, including oral cancers, cardiovascular diseases, and addiction. Despite extensive public health efforts to curb tobacco use, smokeless tobacco remains prevalent among youth, necessitating a deeper understanding of the underlying social factors that contribute to its use. Smokeless tobacco refers to tobacco products that are consumed without burning,

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typically by chewing, sniffing, or placing the product between the gum and cheek (Tomar, 2002). These products contain nicotine, which is highly addictive, and a variety of harmful chemicals that can lead to significant health issues. Adolescents who use smokeless tobacco are at risk of developing long-term health problems, and early initiation can lead to sustained addiction and increased likelihood of using other tobacco products (Eissenberg & Balster, 2000).

The concept of perceived social influence has been pivotal in understanding adolescent behaviors related to tobacco use. Perceived social influence refers to the impact that individuals believe others have on their attitudes and behaviors (Haddock et al., 2018). For adolescents, this often includes the influence of peers, family members, and media. Perceived social influence can shape behaviors by creating social norms those adolescents feel pressured to conform to (Sreeramareddy et al., 2014). Studies have shown that adolescents who perceive higher levels of social acceptance or encouragement for tobacco use are more likely to engage in these behaviors (Pedersen & von Soest, 2014). Peer influence is a significant factor in adolescent smokeless tobacco use. Adolescents are more likely to use tobacco if they have friends who use these products, reflecting the desire to fit in and be accepted by their peer group (Pedersen & von Soest, 2014). Family influence also plays a critical role; adolescents from families where tobacco use is common are more likely to adopt these behaviors themselves (Mishra et al., 2016). Socio-economic status and educational background further impact smokeless tobacco use among adolescents. Those from lower socio-economic backgrounds or with less educational attainment are often at higher risk of using tobacco products (Gupta et al., 2018).

Media and marketing by tobacco companies also contribute significantly to the normalization and appeal of smokeless tobacco products, targeting adolescents through various channels (Siddiqi et al., 2015). In many cultures, smokeless tobacco use is embedded in social and cultural practices, which can reinforce its use among adolescents. Rituals, traditions, and community events can perpetuate the use of tobacco, making it a normative behavior within certain groups (Nichter et al., 2010). This cultural reinforcement can be challenging to counter through public health interventions alone. School-based prevention programs have shown promise in reducing tobacco use among adolescents by addressing social influences and providing education on the risks associated with tobacco (Lee et al., 2019). However, the effectiveness of these programs varies, and they must be culturally and contextually adapted to meet the needs of different adolescent populations (Nawi et al., 2018). Understanding the prevalence and factors associated with smokeless tobacco use among adolescents in Madurai, Tamil Nadu, is essential for developing effective interventions. This study aims to explore these factors, focusing on the role of perceived social influence. By examining the relationship between social influence and smokeless tobacco use, this research seeks to inform targeted strategies to reduce tobacco use among adolescents in this region.

REVIEW OF LITERATURE

Research on smokeless tobacco use among adolescents highlights its prevalence, health implications, and socio-cultural determinants. Gupta and Ray (2003) discuss the significant health risks associated with smokeless tobacco in South Asia, underscoring regional patterns influenced by cultural norms. Pedersen and von Soest (2014) examine transitions from cigarettes to smokeless tobacco among Norwegian youth, emphasizing social and cultural influences on tobacco use behaviors. Tomar (2002) explores how smokeless tobacco use can precede cigarette smoking among American adolescents, reflecting social factors in

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initiation. Studies like Mistry et al. (2012) and Gupta et al. (2018) explore socio-economic influences on smokeless tobacco use in India, linking prevalence rates to perceptions of health risks and familial attitudes. Haddock et al. (2018) highlight peer influence and cultural norms among Appalachian men, showing how perceived peer pressure contributes to smokeless tobacco uptake. Bommagani and Raju (2015) identify socio-demographic correlates of smokeless tobacco use in Andhra Pradesh, India, illustrating regional variations and social influences. Hegde et al. (2019) examines knowledge, attitudes, and practices related to smokeless tobacco among rural adolescents in Mangaluru, India, revealing insights into social norms and perceived peer pressure. Sinha et al. (2002) provides an overview of smokeless tobacco prevalence in Southeast Asia, emphasizing social determinants and use patterns among adolescents. Nazary et al. (2018) analyzes predictors of smokeless tobacco use in Malaysia and Indonesia, highlighting cultural influences and social norms shaping tobacco behaviors among youth.

Recent literature continues to explore diverse aspects of smokeless tobacco use among adolescents globally. Eissenberg and Balster (2000) discuss the pharmacological effects of nicotine in smokeless tobacco products, highlighting its addictive potential among young users. Mishra et al. (2016) examines socio-cultural factors influencing smokeless tobacco use in rural India, emphasizing community norms and familial practices. Siddiqi et al. (2015) analyze the role of tobacco industry marketing strategies in promoting smokeless tobacco products to youth in low- and middle-income countries, revealing the impact of marketing on social perceptions and behaviors. Sreeramareddy et al. (2014) investigate patterns of smokeless tobacco use among adolescents in Nepal, underscoring socio-economic disparities and educational influences on tobacco uptake. Khan et al. (2017) explores behavioral determinants of smokeless tobacco use among Pakistani adolescents, focusing on perceived peer pressure and social networks. Peltzer et al. (2017) conduct a cross-national study on smokeless tobacco use among adolescents in African countries, highlighting regional variations and cultural contexts shaping tobacco behaviors. Nawi et al. (2018) analyzes the prevalence and correlates of smokeless tobacco use among youth in Malaysia, revealing insights into socio-cultural norms and parental influences. Lee et al. (2019) investigates the impact of school-based tobacco prevention programs on reducing smokeless tobacco use among adolescents in South Korea, emphasizing educational interventions and social support systems. Nichter et al. (2010) provide ethnographic insights into cultural meanings and rituals associated with smokeless tobacco use among adolescents in South Asia, illustrating how social contexts influence tobacco consumption practices. Finally, Hu et al. (2016) examine trends in smokeless tobacco use among adolescents in the United States, highlighting shifts in product preferences and the role of social media in shaping tobacco behaviors.

METHODOLOGY

Aim

To explore the prevalence and influence of perceived peer pressure on smokeless tobacco use among adolescents in Madurai, Tamil Nadu.

Objectives

- To determine the prevalence of smokeless tobacco use among adolescents in Madurai, Tamil Nadu.
- To assess the levels of perceived peer pressure among adolescents regarding smokeless tobacco use.

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- To examine the relationship between perceived peer pressure and smokeless tobacco use among adolescents.
- To evaluate the impact of perceived peer pressure on smokeless tobacco use among adolescents.

Hypothesis

- There is a significant relationship between perceived peer pressure and smokeless tobacco use among adolescents.
- Higher levels of perceived peer pressure are associated with higher levels of smokeless tobacco use among adolescents.
- There is a positive impact of perceived peer pressure on smokeless tobacco use among adolescents.

Population and Sample

The study targeted adolescents aged 13-19 years from rehabilitation centers in Madurai, Tamil Nadu. A total sample size of 60 participants was selected using a purposive sampling method.

Tools used in the study

Two measures are used in this study. They are

- 1. Fagerstrom Test for Nicotine Dependence - Smokeless Tobacco (FTND-ST):** The FTND-ST was developed in 1991 by Heatherton et al. to assess the level of nicotine dependence specifically among smokeless tobacco users. The scale consists of 6 items that measure various aspects of tobacco use, such as the frequency and timing of use, difficulty in abstaining, and usage patterns. Each item is scored, and the total score ranges from 0 to 10, with a score of 5 or more indicating significant dependence and a score of 4 or less indicating low to moderate dependence. The reliability of the FTND-ST is supported by a Cronbach's alpha value of [Insert Value], and its validity has been established through content and construct validity measures (Heatherton et al., 1991).
- 2. Perceived Peer Pressure Scale (PPPS):** The PPPS, developed by Palani and Mani in 2016, is designed to measure the extent of peer pressure perceived by adolescents. The scale consists of 30 items, divided into three dimensions: Yielding to Peer Pressure, Resistance to Peer Pressure, and Peers Encouragement. Each item is rated on a scale, reflecting the respondent's agreement with statements about their experiences and behaviors influenced by peers. The PPPS has demonstrated high reliability, with a Cronbach's alpha coefficient of 0.942, indicating excellent internal consistency. Its validity is further supported by an intrinsic validity coefficient of 0.971, confirming that the tool accurately measures the constructs it intends to assess. This scale is suitable for evaluating the perceived social influence among adolescents, particularly in the context of behaviors such as smokeless tobacco use (Palani & Mani, 2016).

Data Analysis

- Quantitative data are analyzed using descriptive statistics (Frequencies and Percentage) to describe the prevalence of smokeless tobacco use and levels of perceived peer pressure.
- Correlation analysis (Pearson's correlation coefficient) is used to examine the relationship between perceived peer pressure and smokeless tobacco use.

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- Simple Linear Regression is used to measure the impact of perceived peer pressure on smokeless tobacco use.

Ethical Considerations

In the conducted study, ethical considerations included obtaining informed consent from participants or their guardians, ensuring confidentiality of data through anonymization of participant identities, and emphasizing voluntary participation with the option to withdraw at any time without consequences. The research adhered to ethical guidelines, minimized potential harm to participants throughout the study.

ANALYSIS AND RESULTS

Table 1 Shows the levels of smokeless tobacco use among adolescents (N=60)

Smokeless Tobacco Use	Number of Respondents	Percentage of Respondents
Low Tobacco Use	24	40.00
Moderate Tobacco Use	20	33.33
High Tobacco Use	16	26.67

Table 1 shows the distribution of smokeless tobacco use among adolescents participating in the study (N=60). The majority of respondents reported low levels of smokeless tobacco use, accounting for 40.00% of the sample. Moderate tobacco use was reported by 33.33% of respondents, while 26.67% reported high tobacco use. These findings indicate varying levels of smokeless tobacco consumption among adolescents, with a significant proportion exhibiting low to moderate usage patterns.

Table 2 Shows the levels of perceived peer pressure among adolescents (N=60)

Perceived Peer Pressure	Number of Respondents	Percentage of Respondents
Low level	28	46.67
Moderate level	15	25.00
High Tobacco level	17	28.33

Table 2 shows the distribution of perceived peer pressure levels among adolescents in the study (N=60). The majority of respondents reported experiencing low levels of perceived peer pressure, accounting for 46.67% of the sample. Moderate perceived peer pressure was reported by 25.00% of respondents, while 28.33% reported high levels of perceived peer pressure. These findings indicate varying degrees of influence from peers perceived by adolescents, with a notable proportion experiencing moderate to high levels of perceived peer pressure.

Table 3 Shows the relationship between smokeless tobacco use and perceive peer pressure among adolescents (N=60)

Study variables	Perceived Peer Pressure	Sig.
Smokeless Tobacco Use	$r = 0.293^*$	0.019

**. Correlation is significant at the 0.05 level (2-tailed)*

Table 3 shows the correlation between smokeless tobacco use and perceived peer pressure among adolescents (N=60). The Pearson correlation coefficient (r) between smokeless tobacco use and perceived peer pressure is 0.293, indicating a positive correlation. Moreover, the correlation is statistically significant at the 0.05 level (2-tailed), suggesting

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that higher levels of perceived peer pressure are associated with increased smokeless tobacco use among adolescents in the study.

Table 4 Shows the impact of perceived peer pressure on smokeless tobacco use among adolescents (N=60)

Regression Weights	Standardized Coefficients β	R Square	F	t	Sig.
Perceived Peer Pressure	0.293	0.086	14.653	3.832	0.019

Dependent Variable: Smokeless tobacco use

The table 4 shows the impact of perceived peer pressure on smokeless tobacco use among adolescents. Regression analysis revealed that perceived peer pressure significantly predicts smokeless tobacco use, $F(1, 58) = 14.653, p < 0.05$. The standardized coefficient (β) of 0.293 indicates a positive relationship between perceived peer pressure and smokeless tobacco use. The t value of 3.832 with a corresponding p value of 0.019 indicates that perceived peer pressure is statistically significant in predicting smokeless tobacco use. The R^2 value of 0.086 indicates that the model explains 8.6% of the variance in smokeless tobacco use.

DISCUSSION

The findings from this study provide significant insights into the relationship between smokeless tobacco use and perceived peer pressure among adolescents. The results are discussed as follows, the distribution of smokeless tobacco use among the adolescents in the study reveals that a majority exhibit low to moderate usage patterns. Specifically, 40.00% of the respondents reported low levels of smokeless tobacco use, 33.33% reported moderate use, and 26.67% reported high use. These results indicate that while a considerable number of adolescents are engaging in smokeless tobacco use, the majority are at lower levels of consumption. Similar findings were reported by Mistry et al. (2012), who noted a significant portion of adolescents engaging in smokeless tobacco use at moderate levels. The high prevalence of smokeless tobacco use among adolescents, as noted by Gupta and Ray (2003), underscores the need for targeted prevention efforts to address this public health concern. Moreover, the data on perceived peer pressure indicate that nearly half of the adolescents in the study experience low levels of peer pressure (46.67%), while 25.00% experience moderate levels and 28.33% experience high levels. This distribution suggests that peer pressure is a significant factor influencing adolescent behavior, consistent with the findings of Pedersen and von Soest (2014), who identified peer influence as a major determinant of tobacco use among youth. Moreover, Haddock et al. (2018) highlighted the role of peer pressure in tobacco uptake, particularly in social settings where tobacco use is normalized.

The relationship and impact of perceived peer pressure on smokeless tobacco use among adolescents has discussed, that the positive correlation ($r = 0.293, p < 0.05$) between smokeless tobacco use and perceived peer pressure suggests that higher levels of perceived peer pressure are associated with increased smokeless tobacco use among adolescents. This finding supported by the research conducted by Sreeramareddy et al. (2014), which demonstrated that adolescents who perceive higher levels of social acceptance or encouragement for tobacco use are more likely to engage in these behaviors. The significant correlation supports the hypothesis that peer pressure is a critical factor in the initiation and continuation of smokeless tobacco use among adolescents. Regression analysis revealed that perceived peer pressure significantly predicts smokeless tobacco use ($\beta = 0.293, p < 0.05$),

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with an R^2 value of 0.086, indicating that 8.6% of the variance in smokeless tobacco use is explained by perceived peer pressure. This finding aligns with the work of Mishra et al. (2016), who found that family and peer influences are significant predictors of tobacco use behaviors. The t value of 3.832 further reinforces the statistical significance of perceived peer pressure as a predictor. The role of peer influence in tobacco use is well-documented in literature, and this study adds to the body of evidence by quantifying its impact on smokeless tobacco use among adolescents.

CONCLUSION

This study concludes by providing the information of, there is significant relationship between perceived peer pressure and smokeless tobacco use among adolescents. The findings indicate that peer pressure plays a crucial role in influencing tobacco use behaviors in this age group of 13-19 years, with higher levels of perceived peer pressure correlating with increased smokeless tobacco use. These insights underscore the importance of addressing social influences when developing interventions to curb tobacco use among adolescents.

Implications

- Implement comprehensive school-based programs on smokeless tobacco risks and resisting peer pressure.
- Promote peer-led interventions to create a supportive culture and help adolescents resist tobacco use.
- Increase parental awareness programs to educate families on the influence of peer pressure and tobacco risks.

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Conflict of Interest

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