

Empowering adolescents through school-based smoking cessation programmes in Pakistan

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Tobacco use by adolescents constitutes a significant public health concern globally with serious implications for Pakistan (1). Globally, 19.3% of adolescents use tobacco, and in Pakistan, the situation is particularly concerning, as adolescent smoking rates range from 9% to 61.1% across different populations (1,2). Smoking-related health problems costed Pakistan US\$ 3.85 billion during the 2018–2019 fiscal year (3), including short-term risks such as nicotine addiction, pneumonia, asthma, gingivitis, gingival bleeding, oral malodour (halitosis), and reduced physical performance (1,2). Three major long-term diseases – cancer, cardiovascular disease and respiratory disease – and their associated mortality collectively accounted for 71% of the total estimated cost (3). The escalating health problems, mortality and financial burdens associated with tobacco use underscore the urgent need for effective strategies to prevent smoking initiation and promote cessation (1). Policymakers and health care providers should focus on prompt and comprehensive measures to address this avoidable public health issue.

Adolescence is a critical developmental period between childhood and adulthood characterized by substantial physiological and psychological changes that significantly influence an individual's health and wellbeing in the future (4). Adolescents are highly susceptible to external influences such as peer pressure, family dynamics and media portrayals, which affect their decision to start smoking (1). Around 1200 children aged 6–15 years start smoking everyday in Pakistan, which is one of the highest rates of adolescent smoking initiation in South Asia (5). Early tobacco use increases the risk of nicotine dependence and other health problems, contributing to the global tobacco epidemic, especially in low- and middle-income countries like Pakistan (6,7).

The need for school-based smoking cessation programmes in Pakistan

Current smoking cessation initiatives in Pakistan have been limited in their effectiveness to reduce tobacco use by adolescents (1). Research from different parts of the world has shown that school-based interventions in formal education settings effectively reduce cigarette

smoking among adolescents (8,9). However, such school-based smoking cessation programmes for adolescents should incorporate evidence-based strategies, monetary incentives, group support, and cognitive therapy with social cognitive theory through mobile applications to enhance effectiveness (10,11). Digital technologies and online platforms have been found to enhance the effectiveness of smoking cessation programmes for adolescents (11). A recent review found that graphic health warnings and anti-smoking campaigns helped raise awareness of tobacco risks among adolescents in Pakistan (1). Such programmes should leverage social media to engage youths, encourage community participation and boost confidence in quitting smoking (11), and should be tailored to the cultural and social norms of Pakistani adolescents to enhance their relevance and effectiveness.

Potential challenges and solutions

In Pakistan, school-based smoking cessation initiatives may face societal and cultural challenges, which may hinder open discussions and reduce programme participation (6,12). Therefore, programmes should be tailored to the local context to address the challenges effectively. For instance, involving community and religious leaders and family members can boost support and acceptance (6,13,14). Interventions should involve open dialogue while respecting cultural norms and include gender-specific strategies so they can address gender-related issues and enhance accessibility.

Socio-economic factors significantly impact adolescent smoking behaviours (7) and school-based programmes can effectively tackle these challenges by incorporating financial education, vocational counselling and stress management in their activities (1,8). Such multifaceted approach can empower adolescents with essential skills for the future.

The tobacco industry exerts considerable influence on tobacco consumption in Pakistan by exploiting regulatory loopholes, evading taxes and misleading the public through corporate social responsibility initiatives that mask the actual harms of tobacco consumption (15). This creates a false narrative of corporate goodwill and diverts attention from the much-needed policy reforms

that could save millions of lives. To address this, the government should eliminate the loopholes, for example by establishing policies on the age at which individuals can legally buy cigarettes, ensuring stricter enforcement of smoking bans in public spaces, including restaurants, cafes and schools. Increasing taxes on cigarettes has proven to be one of the most effective measures for making tobacco products less affordable and for discouraging smoking among teenagers. Educating adolescents on tobacco marketing strategies and the health risks associated with smoking can empower adolescents to make informed decisions about their health (16). Participation rates may be low at the beginning, but if the programmes are well-designed, peer-led and use the social media they can boost engagement over time (1,11). Success stories and visible health improvements among compliant individuals can encourage broader participation, particularly in Pakistan's collectivist society, where peer influence and community success stories can be powerful motivators (1,6).

Educational institutions are crucial in addressing the issue of smoking among adolescents. Evidence indicates that school-based anti-smoking initiatives can decrease adolescent smoking behaviours (8), particularly when reinforced through commitment by educators to model non-smoking behaviours (17). Evidence suggests that teachers who smoke can undermine the efficiency of school-based interventions (18). Therefore, comprehensive training for educators on tobacco control and implementing strict anti-smoking policies within schools is essential.

Existing interventions that could be adopted

Some successful models of school-based smoking cessation programmes can provide valuable insights for implementing effective interventions in educational settings. For example, the United States Project EX: a program of empirical research on school-based adolescent tobacco use cessation (19), the nurse-led 5As cognitive behavioural counselling school-based programme (8) and the classroom-based smoking prevention and cessation intervention in Spain (20). Although implementing these interventions may present certain cultural challenges, adapting them to the specific cultural situation in Pakistan, with culturally tailored incentives that incorporate AI-driven tools, would be helpful (14).

Success metrics for school-based smoking cessation programmes

The success of school-based smoking cessation programmes can be measured in several ways. For example, reduction in smoking rates, which measures the percentage decrease in students identifying as current smokers at various intervals during and after an intervention; quitting rates, which tracks the number

of individuals who have successfully quit smoking; knowledge and attitude changes, which uses pre- and post-intervention surveys to evaluate changes in knowledge about smoking risks and attitudes towards tobacco use; engagement metrics, which monitors participation rates in interventions and support groups; resource use, which tracks the number of participants using cessation resources such as hotlines and counselling; peer influence measurement, which assesses changes in peer smoking behaviours and attitudes; and social media engagement, which measures interactions (likes, shares, comments) on anti-smoking campaigns on social platforms (8,9,11,19). Using these metrics can help assess the immediate and long-term effectiveness of smoking cessation programmes among adolescents.

Call to action

Certain actions should be prioritized to enhance the impact of school-based smoking cessation initiatives. Policymakers should allocate resources to train schoolteachers and healthcare providers and enforce comprehensive tobacco control policies in schools, including smoke-free campuses and mandatory anti-smoking education programmes. Banning cigarette sales near educational institutions and imposing severe penalties on violators can significantly reduce access to tobacco products by teenagers. Establishing a national taskforce to assess the effectiveness of existing interventions will ensure continuous improvements and adaptation to new trends in tobacco use among youths. It is important to develop partnerships with local media outlets and social media platforms to launch awareness campaigns that target Pakistani youth and their families. This should include investments in digital health interventions, such as mHealth applications, tailored to Pakistani adolescents. For guidance in developing and implementing effective, comprehensive tobacco control strategies, policymakers should review successful models such as the Truth Initiative in the USA or the WHO's Framework Convention on Tobacco Control (WHO FCTC) and its MPOWER package.

Conclusion

The significantly high rates of smoking among adolescents in Pakistan and the substantial economic and health-related burdens underscore the need for immediate and comprehensive interventions. Adapting successful international models to the local context could effectively enhance smoking cessation efforts among adolescents in Pakistan. Collaborations among policymakers, educators and health care providers, such as school nurses, paediatricians, community health service workers, and family caregivers, are essential to foster a healthier future for Pakistan, free from the burdens of tobacco-related health issues. Investing in the wellbeing of our youth will help create a smoke-free generation.

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