

FOCUS ON TOBACCO PREVENTION AMONG NON-SMOKING ADOLESCENTS IN AFRICA; A CALL TO TOBACCO CONTROL EXPERTS

O.F. Fagbule^{1,2}, A.O. Adebisi^{3,4}

1. Department of Periodontology and Community Dentistry, College of Medicine, University of Ibadan, Nigeria.
2. Department of Periodontology and Community Dentistry, University College Hospital, Ibadan, Nigeria.
3. Department of Community Medicine, College of Medicine, University of Ibadan, Nigeria.
4. Department of Community Medicine, University College Hospital, Ibadan.

Tobacco use is a significant cause of preventable non-communicable diseases and avoidable deaths globally.¹ Tobacco and its smoke contain numerous cytotoxic and carcinogenic substances that are harmful to the oral and general health of users and those exposed to its smoke.² Some deleterious effects include cancers (oral, lung), cardiovascular, respiratory, and gum diseases.²⁻⁵ The World Health Organization (WHO) puts the current global tobacco-related mortality at eight million,⁶ with 80% of the current smokers coming from Low and Middle-Income Countries (LMICs).⁶

Tobacco use has attained the level of an epidemic in many LMICs, including Africa.^{7,8} The epidemic is sustained by the addition of adolescents to the current pool of tobacco users,⁹ with thousands of adolescents initiated daily.¹⁰ Adolescents are particularly vulnerable to proximal and environmental influences to use tobacco, and four out of every five adult smokers usually start smoking during adolescence.^{2,9}

Although the current prevalence of tobacco use among adults indicates that smoking prevalence is lower in the African region compared to other regions, the situation is changing. The current trend shows that the prevalence of tobacco smoking is reducing among adults in all the world regions (Americas, European, South-East Asia, Western Pacific) except for Africa and the East Mediterranean regions.¹¹ Consequently, Africa has been described as the future epicentre of the tobacco epidemic, representing “the greatest threat in terms of future growth in smoking.”¹² Modeling based on available data has predicted that while tobacco use in the African region is relatively low, compared to the other regions,^{12,13} some African countries will experience up to nearly 40% increase by 2030.^{8,14} There are early signs that the predicted change has commenced because while the prevalence of adult (male) tobacco smoking is a lot lower in Africa compared to other regions, this is not the case among the youth and adolescents.¹²

The African region has the highest proportion (23%) of adolescents,¹⁵ and is projected to record the highest

increase in youthful population growth by 2050.¹⁶ Thus, for the tobacco industry (TI), it is strategic to deliberately target African adolescents in the bid to make Africa the next tobacco market.^{12,17,18} The region also has the weakest tobacco control legislation, making it easier for the TI to exploit the vulnerability of the youthful population.¹² Early signs show that the TI influence is increasing as tobacco use among African adolescents and youths is increasing.¹² And while tobacco use in the African region is relatively low, compared to the other regions,^{12,13} it has been predicted that some African countries will experience up to nearly 40% increase by 2030.^{8,14}

While the prevalence of tobacco use among adolescents is increasing, the prevalence of non-tobacco users who are susceptible to tobacco uptake is even higher.^{19,20} Susceptibility to tobacco use is the lack of firm decision not to engage in the habit.²¹ Because susceptibility is a significant predictor of uptake, this group of people are at a higher risk of initiating and sustaining tobacco use.²²

A major tactic of the TI to make adolescents susceptible and initiate the habit is deception. They fail to provide accurate information about the harmful content of tobacco products, giving out the perception that they are not/less harmful.¹² This deception engenders poor knowledge among adolescents about the harm posed by tobacco products. Therefore, the positive perception of tobacco use by adolescents is often strongly related to their poor knowledge and low self-efficacy.²³⁻²⁵

This pattern of increasing tobacco susceptibility and use among African adolescents calls for urgent attention. Unfortunately, ongoing tobacco control efforts in many African countries are directed towards tobacco cessation with limited success.²⁶ This has been partly because tobacco use is an addictive habit due to the nicotine content; hence, difficult to stop.²⁷ In addition, the high cost and lack of access to pharmacological intervention, which significantly increases cessation rates when combined with health education/counselling, worsens the situation.²⁸

However, reducing the burden of tobacco use in Africa will not only involve making current users quit (cessation) but must also include preventing non-users from initiating the habit. The latter is an area that we feel tobacco control experts must begin to pay more attention. While tobacco cessation greatly reduces mortality among those already sustaining tobacco use, tobacco prevention has a wider population-level effect that is rapidly scalable. Studies have shown that while educational intervention may fail to make adolescent smokers quit, it could reduce the proportion of those susceptible.²⁹ Susceptible adolescents are still non-smokers who are not addicted to tobacco use. Hence, intervening has a higher chance of success.^{29,30} Thus, the parlance that “prevention is better than cure” is more critical for African countries in reducing the burden of tobacco use in the region.

Similarly, as opined by Blecher and Ross,¹² focusing on preventing tobacco uptake is a more pragmatic goal in Africa. The low prevalence of tobacco use in many African countries requires a pure prevention strategy.¹² This approach is not only appropriate, but they are also cost-effective. The economic cost of smoking is avoided, and the associated better health outcome of the populace will positively influence economic activities at country levels.¹² Pierce and others,²¹ advised that preventive intervention should be targeted at never-smokers. According to them, “smoking prevention programs should either prevent target groups from becoming susceptible to smoking or prevent susceptible adolescents from progressing to experimentation.”²¹

To offer effective preventive intervention targeted at susceptible non-smokers in Africa, adequate information about this group is needed, and this is currently lacking. Only a few studies have examined adolescents’ susceptibility to tobacco use in Africa,^{20,29,31} and even fewer have assessed the effectiveness of educational interventions in preventing tobacco uptake among them.³² Considering that Africa is already facing enormous economic and health challenges from the tobacco burden, a further increase in tobacco use in this region will be devastating. Hence, tobacco control experts in African countries should focus on preventing the most vulnerable population group – adolescents, from initiating the habit. If they can do so successfully, about 80% of smoking during adulthood would be prevented. This would improve African countries’ economic viability, leading to increased productivity from reduced tobacco-related mortality and reduced expenditure on tobacco-related diseases.

REFERENCES

1. **Mathers CD**, Loncar D. Projections of global mortality and burden of disease from 2002 to 2030. *PLoS Med.* 2006;3(11):2011–30.
2. U.S. Department of Health and Human Services. *The Health Consequences of Smoking- 50 Years of Progress: A Report of the Surgeon General* [Internet]. U.S. Department of Health and Human Services. Atlanta, GA; 2014. Available from: http://www.cdc.gov/tobacco/data_statistics/sgr/50th-anniversary/index.htm
3. **Siddiqi K**, Shah S, Abbas SM, *et al.* Global burden of disease due to smokeless tobacco consumption in adults: Analysis of data from 113 countries. *BMC Med* [Internet]. 2015 Dec 17 [cited 2019 Apr 7];13(1):194. Available from: <http://www.ncbi.nlm.nih.gov/pubmed/26278072>
4. **Munshi T**, Heckman CJ, Darlow S. Association between tobacco waterpipe smoking and head and neck conditions: A systematic review. *J Am Dent Assoc* [Internet]. 2015 Oct 1 [cited 2019 Mar 12];146(10):760–6. Available from: <https://www.sciencedirect.com/science/article/abs/pii/S0002817715004912>
5. **Bloom B**, Adams PF, Cohen RA, Simile C. Smoking and oral health in dentate adults aged 18-64. *NCHS Data Brief* [Internet]. 2012 Feb [cited 2019 Apr 5];(85):1–8. Available from: <http://www.ncbi.nlm.nih.gov/pubmed/22617703>
6. WHO. Tobacco - Key facts [Internet]. World Health Organization.; 2020 [cited 2018 Apr 4]. Available from: <https://www.who.int/news-room/fact-sheets/detail/tobacco>
7. **Lee S**, Ling PM, Glantz SA. The vector of the tobacco epidemic: tobacco industry practices in low and middle-income countries. Vol. 23 Suppl 1, *Cancer causes & control*/: CCC. 2012. 117–129.
8. **Bilano V**, Gilmour S, Moffiet T, *et al.* Global trends and projections for tobacco use, 1990-2025: an analysis of smoking indicators from the WHO Comprehensive Information Systems for Tobacco Control. *Lancet* (London, England). 2015 Mar;385(9972):966–976.
9. U.S. Department of Health and Human Services. *Preventing Tobacco Use Among Youth and Young Adults - A Report of the Surgeon General*. 2012th ed. Atlanta, GA: Centers for Disease Control and Prevention (US); 2012. 1–670.
10. World Health Organization. *WHO global report on trends in prevalence of tobacco smoking 2015* [Internet]. Geneva; 2015 [cited 2018 Aug 29]. Available from: www.who.int
11. WHO. *Global report on trends in prevalence of tobacco smoking 2000-2025, second edition*. Second edi. Geneva: World Health Organization; 2018.

12. **Blecher E**, Ross H. Tobacco Use in Africa/: Tobacco Control through Prevention. American Cancer Society. 2013.
13. **Thun M**, Peto R, Boreham J, Lopez AD. Stages of the cigarette epidemic on entering its second century. *Tob Control* [Internet]. 2012 Mar 1 [cited 2020 May 26];21(2):96–101. Available from: <http://tobaccocontrol.bmj.com/>
14. World Health Organization (WHO). WHO global report on trends in tobacco smoking 2000-2025 - 5th Edition. 2015.
15. UNICEF. Adolescent Demographics [Internet]. Monitoring the situation of children and women. 2019 [cited 2021 Oct 10]. Available: <https://data.unicef.org/topic/adolescents/demographics/>
16. UNFPA. Adolescent and Youth Demographics: A Brief Overview [Internet]. Youth Demographics. [cited 2021 Oct 10]. Available from: [https://www.unfpa.org/sites/default/files/resource-pdf/One pager on youth demographics GF.pdf](https://www.unfpa.org/sites/default/files/resource-pdf/One%20pager%20on%20youth%20demographics%20GF.pdf)
17. **Isip U**, Calvert J. Analyzing big tobacco's global youth marketing strategies and factors influencing smoking initiation by Nigeria youths using the theory of triadic influence. *BMC Public Health* [Internet]. 2020 Mar 20 [cited 2020 Dec 31];20(1):1–12. Available from: <https://link.springer.com/articles/10.1186/s12889-020-8451-0>
18. **Farber HJ**, Folan P. The Tobacco Industry Targets Youth. *Am J Respir Crit Care Med* [Internet]. 2017 [cited 2019 Apr 26];196(6):11–2. Available from: <https://search.proquest.com/openview/841e6c23a3da8d5bcf98bd4e2538fb6a/1?pq-origsite=gscholar&cbl=40575>
19. **Odukoya OO**, Odeyemi KA, Oyeyemi AS, Upadhyay RP. Determinants of smoking initiation and susceptibility to future smoking among school-going adolescents in Lagos State, Nigeria. *Asian Pac J Cancer Prev*. 2013;14(3):1747–1753.
20. **Babatunde LS**, Babatunde OT, Oladeji SM, Ashipa T. Prevalence and determinants of susceptibility to cigarette smoking among non-smoking senior secondary school students in Ilorin, North Central Nigeria. *Int J Adolesc Med Health*. 2017; 30(5).
21. **Pierce JP**, Choi WS, Gilpin EA, *et al*. Validation of susceptibility as a predictor of which adolescents take up smoking in the United States. *Health Psychol* [Internet]. 1996 Sep [cited 2020 Feb 24];15(5):355–61. Available from: <http://www.ncbi.nlm.nih.gov/pubmed/8891714>
22. **Forrester K**, Biglan A, Severson H, Smolkowski K. Predictors of smoking onset over two years. *Nicotine Tob Res* [Internet]. 2007 Dec 1 [cited 2020 Feb 23];9(12):1259–67. Available from: <https://academic.oup.com/ntr/article-abstract/9/12/1259/1138523>
23. **Tezera N**, Endalamaw A. Current Cigarette Smoking and Its Predictors among School-Going Adolescents in East Africa: A Systematic Review and Meta-Analysis. *Int J Pediatr* (United Kingdom). 2019;2019.
24. **Lawal FB**, Fagbule OF. Knowledge of School-Going Adolescents About the Oral Effects of Tobacco Usage in Ibadan, Southwest Nigeria. *Int Q Community Health Educ* [Internet]. 2019 Dec 22 [cited 2019 Dec 23];0272684X1989673. Available from: <http://journals.sagepub.com/doi/10.1177/0272684X19896730>
25. **Adebiyi AO**, Faseru B, Sangowawa AO, Owoaje ET. Tobacco use amongst out of school adolescents in a Local Government Area in Nigeria. *Subst Abuse Treat Prev Policy* [Internet]. 2010 Oct 18 [cited 2018 Jun 3];5:24. Available from: <http://www.ncbi.nlm.nih.gov/pubmed/20955555>
26. **Nishio A**, Saito J, Tomokawa S, *et al*. Systematic review of school tobacco prevention programs in African countries from 2000 to 2016. *PLoS One*. 2018 Feb 1;13(2):1–16.
27. **Kendler KS**, Myers J, Damaj MI, Chen X. Early smoking onset and risk for subsequent nicotine dependence: a monozygotic co-twin control study. *Am J Psychiatry* [Internet]. 2013 Apr [cited 2018 Jun 5];170(4):408–13. Available from: <http://www.ncbi.nlm.nih.gov/pubmed/23318372>
28. **Rovina N**, Nikoloutsou I, Katsani G, *et al*. Effectiveness of pharmacotherapy and behavioral interventions for smoking cessation in actual clinical practice. [cited 2021 Oct 11]; Available from: <http://www.sagepub.co.uk/>
29. **Odukoya OO**, Odeyemi KA, Oyeyemi AS, Upadhyay RP. The effect of a short anti-smoking awareness programme on the knowledge, attitude and practice of cigarette smoking among secondary school students in Lagos state, Nigeria. *Niger Postgrad Med J*. 2014;21(2):128–135.
30. **Lee PH**, Wu DM, Lai HR, Chu NF. The impacts of a school-wide no smoking strategy and classroom-based smoking prevention curriculum on the smoking behavior of junior high school students. *Addict Behav*. 2007;32(10):2099–2107.
31. **Osuh ME**, Fagbule OF, Olatunji YD. Prevalence and predictors of susceptibility and future intention to smoke cigarettes among school-going adolescents in Ibadan, Nigeria. *Pan Afr Med J* [Internet]. 2020 Nov 11 [cited 2020 Nov 22];37. Available from: <https://www.panafrican-med-journal.com/content/article/37/230/full>
32. **Thomas RE**, McLellan J, Perera R. Effectiveness of school-based smoking prevention curricula: systematic review and meta-analysis. *BMJ Open* [Internet]. 2015 Mar 10 [cited 2020 Jul 13];5(3):e006976. Available from: <http://www.ncbi.nlm.nih.gov/pubmed/25757946>