

01. Title: Up in Smoke? Prevalence, Key Drivers, and the Impact of Conflict on Tobacco Use Among Male School Adolescents in River Nile State, Sudan: A Cross-Sectional Study 2024

Tarteel Awad Alnoor Mohamed¹, Marwa Abdelhafez Ahmed Elbasher², Maryam Mohamed¹, Hagir Khalid Elshaikh Elagib¹, Ahmed Adil Ahmed Jarelnabi¹, Ahmed Elmuntasir T Salah¹, Mishkat H. Mamoon¹.

¹ Faculty of Medicine, University of Khartoum, Khartoum, Sudan,

² Faculty of Architecture and Planning, University of Khartoum, Khartoum, Sudan,

Background: Tobacco use remains a primary driver of multisystem disease, including cardiovascular and oncological complications. In Sudan, the cultural entrenchment of toombak (a type of smokeless tobacco) poses a severe public health risk, contributing significantly to oral squamous cell carcinomas. This risk is further exacerbated by the ongoing conflict initiated in April 2023. While the River Nile State has remained relatively shielded from the direct effects of the conflict, it has served as a primary sanctuary for massive waves of internally displaced persons. This population surge, combined with the severe degradation of basic services and infrastructure, has created a high stress environment where tobacco frequently serves as a coping mechanism for trauma and anxiety. This study addresses the critical lack of localized data on adolescent tobacco prevalence and its sociodemographic predictors in such resource limited contexts.

Methods: This analytical cross sectional, school based survey was conducted in the River Nile state, specifically Aldamar and Atbara localities, from May to July 2024. Using multistage cluster sampling, 288 male students aged 11–18 were recruited from primary, middle, and secondary schools. Data were collected via interviews using a validated Arabic version of the Global Youth Tobacco Survey (GYTS). The primary dependent variable was tobacco usage within the past 12 months. Independent variables included sociodemographic characteristics (residency, education levels, daily allowance), social influences (parental and peer tobacco use), and the impact of the ongoing conflict. Statistical analysis in SPSS v.27 employed descriptive statistics, Chi-square tests, Fisher's exact tests for associations, with binary logistic regression used to identify significant predictors of tobacco use.

Results: Among 288 male students (84.4% aged 15–18), the 12-month prevalence of tobacco use was 42.7%, including exclusive smoking (16.7%), exclusive smokeless tobacco (13.8%), and dual use (12.2%). Daily use in the preceding 30 days was reported by 25.0% of participants. Initiation typically occurred between ages 13 and 14, largely driven by peer and family influence. Bivariate analysis identified daily allowance and peer tobacco use as significant factors ($p < 0.05$). Multivariate logistic regression confirmed that receiving a high daily allowance of 6,000–10,000 SDG ($OR = 5.774$) and having friends who all use tobacco ($OR = 5.546$) were the strongest predictors of usage. Notably, 61.8% of students perceived the ongoing conflict in Sudan as having a negative impact on youth tobacco consumption patterns.

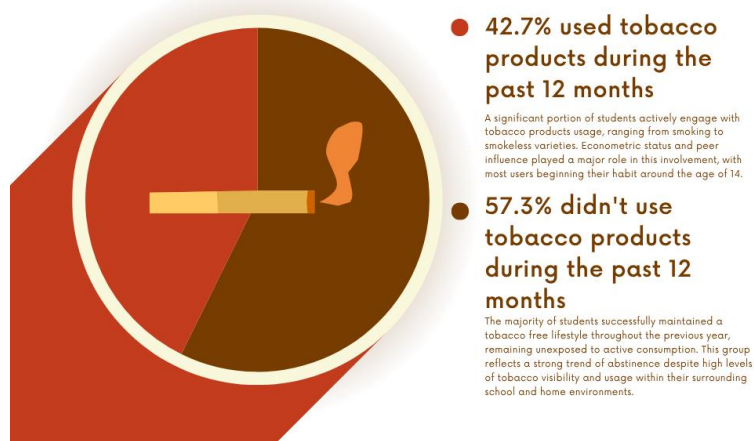
Conclusion: Tobacco use has reached critical levels among school aged males in the River Nile State, fueled by social and economic factors. The findings highlight a shift in consumption patterns

influenced by the current instability in Sudan. Public health strategies must integrate tobacco control into broader humanitarian and psychosocial support frameworks for affected youth. Addressing tobacco use among adolescents must be recognized as a vital component of the emergency health response to prevent an upsurge in tobacco related morbidity in the post conflict era.

Key Words: Tobacco Products, Adolescents, Armed Conflicts
Figure or Table:

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Numbers Talk: Tracking Tobacco Usage in The Last Year Among School Adolescents



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