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UCT-led study reveals alarming vaping rates among South African high school learners

A groundbreaking study led by the University of Cape Town (UCT) has uncovered startling levels of vaping among high school learners in South Africa, with nearly 30% of Grade 12 students reporting active use. This first-of-its-kind research, involving over 25 000 learners across 52 schools, was published in [The Lancet EClinicalMedicine](#).

The study reveals that 16.8% of high school learners have vaped in the past 30 days, with the prevalence increasing sharply by grade, reaching a concerning 29.5% among matriculants and in some schools as high as 46%. This is juxtaposed against significantly lower reported rates of tobacco cigarette use (2%), cannabis use (5%) and hookah pipe use (3%).

Concerning addiction patterns

According to Professor Richard van Zyl-Smit – a pulmonologist, UCT academic and leading expert in tobacco and vaping research at Groote Schuur Hospital – the findings emphasise the highly addictive nature of vaping products.

“This rate of vaping is of particular concern among adolescents due to the highly addictive nature of nicotine,” says Professor van Zyl-Smit. “Nicotine use during adolescence can harm the developing brain, with potential long-term effects on learning, memory and attention. Alarmingly, it also increases the risk of progression to conventional cigarette smoking.”

The study’s innovative approach to measuring addiction revealed that between 40% and 60% of learners who vape are likely addicted to nicotine, with many reporting withdrawal symptoms, such as needing to vape immediately after waking.

Understanding the drivers

The survey sheds light on the reasons behind this growing trend. Adolescents often begin

vaping due to social influences, curiosity and stress relief. Over time, these factors evolve into dependency and a coping mechanism for emotional wellbeing.

“As a psychiatrist, I am particularly struck by the link between stress and vaping initiation,” said Professor Jackie Hoare, UCT’s neuropsychiatrist and co-author of the study. “Many students do not recognise their dependence, despite experiencing withdrawal symptoms. This cognitive dissonance warrants deeper exploration to inform education and intervention strategies.”

Impact across school demographics

Interestingly, vaping rates varied across schools of different fee structures. Learners at schools charging annual fees between R20 000 and R40 000 had the highest vaping rates (19.5%), compared to 14.6% at schools charging over R90 000 yearly.

Call for policy and action

The research team emphasises that punitive approaches by schools and parents may not be effective. Instead, interventions should address nicotine addiction and provide support for emotional well-being and stress management.

“This data equips us with the evidence needed to shape policies that regulate access, marketing and advertising of vaping products to adolescents,” said Professor van Zyl-Smit. “Prevention must start as early as junior school, given the high rates already observed among Grade 8 learners.”

Global significance

Dr Sebastian Kurten, a statistician and collaborator from the University of Cambridge, underscores the study’s importance. “Our findings highlight the urgent need to address the pressures faced by today’s adolescents. By identifying stress as a key driver of vaping, we can develop targeted interventions to safeguard the health of our youth.”

This research marks a pivotal step in understanding and combating the vaping epidemic among South Africa’s youth, and is part of UCT’s continued efforts in promoting public health and driving evidence-based policymaking.

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