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Vaping in a Pacific Island Context: A Qualitative Exploration of Adolescent Initiation, Social Influences, and Regulatory Perceptions Among Young Adults in Samoa

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Abstract

Background: E-cigarette use among adolescents is an emerging public health concern, yet evidence from Pacific Island settings remains limited. This study explored the experiences and perceptions of young adults in Samoa who initiated e-cigarette use during adolescence, focusing on social influences, health-risk perceptions, continued use and cessation, and understanding of e-cigarette regulation.

Methods: A qualitative descriptive study using semi-structured, in-depth interviews was conducted with 30 current and former e-cigarette users aged ≥18 years who first experimented with e-cigarettes between 12 and 17 years. Participants were recruited from the National University of Samoa and The University of the South Pacific, Samoa Campus, using purposive and volunteer sampling. Interviews were transcribed verbatim, de-identified, manually coded, and analysed thematically.

Results: Participants had a mean age of 21.7 years (SD=2.3), and the mean age at e-cigarette initiation was 15.6 years (SD=1.4). Sixteen (53.3%) were current users and 14 (46.7%) were former users. Four themes emerged: (1) social and peer influences shaping initiation and use; (2) perceptions and knowledge of health risks; (3) factors influencing continued use and cessation; and (4) limited understanding of e-cigarette regulation. Peer exposure and social settings were prominent in initiation and continued use. Cessation reflected multiple influences, including health concerns, financial cost, family influence, changing social environments, and personal motivation. Knowledge of vaping-related harms varied, while understanding of the regulatory environment was generally limited.

Conclusion: E-cigarette initiation and subsequent use among participants were closely embedded within social and contextual environments. The findings support culturally grounded, youth-focused prevention and cessation approaches in Samoa, alongside strengthened surveillance, regulatory communication, and implementation of existing tobacco-control measures.

Introduction

Electronic cigarettes, colloquially referred to as “e-cigarettes,” “e-cigs,” “vapes,” or “vape pens” by companies and consumers, encompass a category of battery-powered devices that operate by heating solutions which generally consist of nicotine, flavourings, as well as other additives, allowing users to inhale vapour into their lungs (Morgan et al., 2019). Initially promoted as a potentially less harmful alternative to conventional cigarettes and as an aid to smoking cessation, e-cigarette use has increased substantially since their commercial introduction in the early 2000s (Besaratinia & Tommasi, 2017). Of particular public health concern is their uptake among adolescents and young people who have not previously smoked conventional cigarettes (Schoenborn & Gindi, 2015; Singh et al., 2016). For this study, adolescents are defined as individuals aged 12–17 years.

Growing evidence has identified potential health risks associated with e-cigarette use, particularly among adolescents (Barrington-Trimis et al., 2016; Besaratinia & Tommasi, 2017). Nicotine exposure during adolescence has been associated with addiction and adverse effects on the developing brain,

while e-cigarette aerosols and flavouring constituents have been linked with respiratory inflammation, cellular toxicity, and potential cardiovascular effects (Barrington-Trimis et al., 2014, 2016; Lerner et al., 2015; Lippi et al., 2014; Wills et al., 2015). E-cigarette use among young people has also been associated with subsequent conventional cigarette smoking, although the extent to which this relationship is causal remains uncertain (Soneji et al., 2017; Wolfenden et al., 2018).

Beyond potential health effects, adolescent e-cigarette use is influenced by a combination of individual and social factors. International research has identified curiosity, perceptions of reduced harm, flavours, peer and family influences, social acceptance, and exposure to vaping within young people's social environments as important factors shaping experimentation and continued use (Alexander et al., 2019; Barrington-Trimis et al., 2016). These findings suggest that adolescent vaping should be understood within the broader social environment rather than solely as an individual behavioural choice.

However, much of the existing evidence originates from countries outside the Pacific, where regulatory, social, cultural, and commercial environments may differ considerably from those in Samoa. Samoa's tobacco control framework was primarily developed in response to conventional tobacco products, with e-cigarettes and emerging vaping products not comprehensively addressed within the existing legislation (Government of Samoa, 2008). This is increasingly relevant as vaping products become more visible and accessible, particularly among younger populations. However, there remains limited local evidence on how young Samoans perceive, access, initiate, continue, or cease using e-cigarettes.

The Samoan context is particularly important because adolescent behaviours occur within strong family, peer, school, and community networks. These social and cultural environments may influence perceptions and behaviours surrounding vaping differently from those reported internationally. Understanding these influences is therefore important for ensuring that future health-promotion, advocacy programs, prevention, and policy responses are grounded in the lived experiences of young people in Samoa rather than relying primarily on evidence generated in other settings.

Despite increasing international research on adolescent vaping, qualitative evidence examining the underlying reasons for e-cigarette use among young people in Samoa remains limited. Exploring the retrospective experiences of adults who began experimenting with e-cigarettes during adolescence provides an opportunity to better understand vaping within the Samoan social and cultural context. The aim of this study was to explore the experiences and perceptions of current and former e-cigarette users who first experimented with e-cigarettes during adolescence in Samoa.

This study therefore explored the experiences and perceptions of current and former e-cigarette users who first experimented with e-cigarettes during adolescence in Samoa. Particular attention was given to the social and environmental influences surrounding initiation and continued use, perceptions of health risks, experiences of cessation, and understanding of e-cigarette regulation. By generating locally grounded qualitative evidence, the study seeks to address an important gap in the Pacific literature and provide evidence to inform culturally appropriate prevention, health-promotion, and tobacco-control responses in Samoa.

Methods

Study Design and Participants

A qualitative descriptive study using semi-structured, in-depth interviews was conducted with current and former e-cigarette users in Samoa. Reporting was informed by the Consolidated Criteria for Reporting Qualitative Research (COREQ) (Tong et al., 2007).

Participants were aged ≥18 years and had first experimented with e-cigarettes between 12 and 17 years of age. Eligible participants were students at the National University of Samoa (NUS) or The University of the South Pacific (USP), Samoa Campus, had undertaken their adolescent or secondary-school years in Samoa, and were able to provide informed consent and participate in Samoan or English. Individuals aged <18 years, those who initiated e-cigarette use at ≥18 years, and those who had not resided in Samoa during adolescence were excluded.

Participants were recruited using purposive and volunteer sampling, with variation sought across sex, institution, age at initiation, and current or former e-cigarette use (Liamputtong & Ezzy, 1999). Recruitment information was distributed through approved university channels, allowing eligible individuals to voluntarily express interest. Recruitment continued until sufficient thematic depth was achieved and no substantively new findings were emerging. 30 participants completed the study.

Research Team and Reflexivity

The research team consists of three researchers with experience in qualitative research and knowledge of the Samoan and broader Pacific context. The interviewer had no prior relationship with the participants, helping to maintain independence during the interview process. The researchers acknowledged that their professional and cultural backgrounds could influence the interview process and interpretation of the data. Reflexivity was considered throughout the study. Researchers kept field notes following interviews and discussed emerging interpretations during the analysis. During coding, the team revisited their assumptions and interpretations to ensure that the findings remained closely grounded in participants' accounts.

Data Collection

Data were collected between March and October 2023. Semi-structured interviews were conducted either face to face in a suitable space and Fale Samoa at the NUS or USP Samoa campus or online via Zoom, according to participant preference. Interviews were conducted in Samoan or English and lasted approximately 40 minutes.

A semi-structured interview guide explored participants' experiences of e-cigarette initiation and use during adolescence, social and peer influences, perceptions of health risks, continued use and cessation,

and understanding of e-cigarette regulation in Samoa. Open-ended questions and follow-up prompts allowed participants to describe their experiences in their own words (Serry & Liamputtong, 2013).

With informed consent, interviews were audio-recorded, with field notes taken to capture relevant observations during and immediately after interviews. No repeat interviews were conducted, and transcripts were not returned to participants for checking.

Data Analysis

Audio recordings were transcribed verbatim, de-identified, and checked for accuracy prior to analysis. Data were analysed using thematic analysis following Braun et al. (2019). Three researchers independently familiarised themselves with the transcripts and undertook coding. Initial codes were compared and organised into broader categories, from which themes and subthemes were developed.

Themes were reviewed against the transcripts and refined through discussion among the research team. Differences in interpretation were discussed and resolved through consensus, with a third researcher consulted where needed. Analysis was iterative, with themes revisited and refined to ensure they reflected participants' experiences and perspectives. Manual coding was used to organise and analyse the data.

Ethical Considerations

Ethical approval was obtained from the National Health Research Ethics Committee (NHREC) in Samoa prior to data collection. The study was conducted in accordance with the ethical principles of the Declaration of Helsinki and NHREC ethical requirements. All participants provided informed consent and were advised that participation was voluntary and that they could decline to answer questions or withdraw without consequence.

Pseudonyms were used and identifying information was removed from transcripts and reported findings. Particular attention was given to confidentiality given Samoa's relatively small and interconnected social context.

Findings

Participant Characteristics

A total of 30 participants who had first experimented with e-cigarettes during adolescence participated in the study. The mean age of participants was 21.7 years (SD = 2.3), while the mean age of first e-cigarette use was 15.6 years (SD = 1.4). Sixteen participants (53.3%) identified as current e-cigarette users and 14 (46.7%) as former users. Participants were recruited from NUS and USP, Samoa Campus. Further participant characteristics are presented in Table 1.

Table 1. Characteristics of study participants (N = 30)

Characteristic	n (%) or Mean (SD)
Age, years	21.7 (2.3)
Age at first e-cigarette use, years	15.6 (1.4)
Sex	
Male	19
Female	11
Ethnicity	
Samoan	30
Institution	
NUS	12
USP Samoa Campus	18
E-cigarette use status	
Current user	16 (53.3)
Former user	14 (46.7)

Theme 1: Social and Peer Influences Shaped E-cigarette Use

Social and peer influence was prominent across participants' accounts of e-cigarette initiation. Participants frequently described first encountering or trying e-cigarettes through friends, classmates, social gatherings, or other young people who were already vaping.

"I got the vape from my friend. He said it was from his cousin who came from NZ. I tried it and really liked the flavour … we continued to share the vape around our group."
(Male, 19 years)

Curiosity and wanting to experience what friends were doing were commonly described. Sharing devices and the visibility of vaping within friendship groups also contributed to experimentation. Participants described flavours and ease of use as adding to the appeal of vaping during adolescence. For some participants, experimentation within social settings progressed into more frequent use, particularly where vaping remained common within their friendship groups.

"I started by trying it with my two friends, to taste it and see how it feels … it felt good, and I continued from then. It's been five years now since I've been vaping."
(Female, 22 years)

Theme 2: Perceptions and Knowledge of Health Risks

Participants demonstrated varying levels of knowledge about the potential health effects of e-cigarettes. Most recognised that vaping could be harmful; however, knowledge of specific risks, including nicotine dependence and respiratory and cardiovascular effects, varied.

"I came across vaping on the internet, and it said it was an alternative to smoking … I was not aware of any health risks. I thought it was good since it was an alternative to reduce smoking." (Male, 18 years)

Some participants recalled believing during adolescence that e-cigarettes were less harmful than conventional cigarettes. The absence of cigarette smoke, flavours, and perceptions of vaping as cleaner or different from smoking contributed to these views.

Former users commonly described greater concern about potential health effects when reflecting on their previous vaping experiences. For some, these concerns contributed to their decision to stop.

"I came across some news from Niue on the internet that someone had died because of vaping. I'm not sure if it's true … I've been vaping for almost three years now, but a smoker for two years. It's not making me reduce smoking but making me want to smoke some more … I also have this dry mouth problem, and I think it's because I vape and smoke at the same time. So I decided to stop, and it's been two months since my last puff."
(Male, 23 years)

Theme 3: Factors Influencing Continued Use and Cessation

Experiences differed between current and former users. Current users described several factors contributing to continued vaping, including peer environments, accessibility, flavours, enjoyment, stress, and established habits. Continued interaction with friends who vaped was frequently described as reinforcing use.

"It felt good, and I see vaping as the quickest way to get together with some friends at Uni, even though the campus does not allow us to vape in the compound."
(Female, 20 years)

"When I have too many assignments … having a puff or two makes me feel less pressured and a bit relaxed."
(Male, 19 years)

Former users described a range of reasons for stopping, including health concerns, financial cost, family influence, changes in friendship groups, and personal motivation.

"The cost of the vape varied. I remember buying one from a seller on Facebook Marketplace for 95 tala … the price kept going up, and I can remember the last vape I bought was 120 tala. It was getting expensive, so I decided to stop buying it from online sellers."
(Male, 20 years)

Cessation was generally described as involving several factors rather than a single reason. Changes in personal priorities and social environments were commonly reflected in participants' accounts.

Theme 4: Awareness and Understanding of E-cigarette Regulation in Samoa

Participants demonstrated limited and inconsistent knowledge of e-cigarette regulation in Samoa. Several were uncertain whether vaping products were regulated and what restrictions applied to their sale, supply, or use.

"It felt normal because people were selling it online and having it delivered to town, to a location messaged through by the seller … I was never aware that these products were regulated because they were sold online and locally."
(Female, 21 years)

Some participants reported having little or no knowledge of legislation relating specifically to e-cigarettes.

"We see things on the internet that vapes are banned in some overseas countries … I never came across any formal notice about vapes or any law from the Ministry of Health or officials. We thought it was allowed here in Samoa."
(Male, 18 years)

Participants also described accessing vaping products through friends, acquaintances, and other informal channels. These accounts indicated that access during adolescence was not necessarily dependent on direct purchasing from online sellers around Samoa.

"It was very easy for us to order. We just messaged the seller through Instagram or sometimes Facebook Messenger, and we would get it the next day … they delivered it to one of my friends."
(Female, 23 years)

Discussion

This study explored the experiences and perceptions of current and former e-cigarette users who first experimented with vaping during adolescence in Samoa. Four themes emerged: social and peer influences; perceptions and knowledge of health risks; factors influencing continued use and cessation; and awareness and understanding of e-cigarette regulation. Collectively, the findings highlight the importance of understanding vaping within the social and cultural environment in which young people live.

Social and Peer Influence

Social and peer influence was prominent in participants' accounts of initiating e-cigarette use. Experimentation commonly occurred through friends, classmates and social gatherings, suggesting that

initial vaping was often socially facilitated rather than an isolated individual decision.

This is consistent with international evidence identifying friends and family as important sources of exposure to e-cigarettes and information about vaping among adolescents. Young people's perceptions are also shaped by social networks, advertising and direct experiences with vaping (Sharma et al., 2021). Similarly, familial and peer norms have been associated with regular e-cigarette use among young people (Alexander et al., 2019).

These findings are particularly relevant to Samoa, where young people are embedded within close family, peer and community networks. Prevention approaches that focus solely on communicating individual health risks may therefore overlook the social environment in which experimentation occurs. Peer-led and culturally appropriate interventions may provide an important complement to conventional health education.

Perceptions and Knowledge of Health Risks

Although participants generally recognised that vaping could be harmful, knowledge of specific health consequences varied. Some recalled perceiving e-cigarettes as less harmful than conventional cigarettes during adolescence, particularly because vaping did not involve conventional cigarette smoke and was perceived as cleaner or more socially acceptable.

Similar findings have been reported internationally. Adolescents can hold conflicting perceptions about e-cigarette harms, with users generally reporting more favourable perceptions of vaping than conventional smoking (Sharma et al., 2021). Young people who have used e-cigarettes have also been found to be more likely to perceive them as less harmful than conventional cigarettes (Aly et al., 2022).

The findings suggest that health communication in Samoa should extend beyond general messages that vaping is harmful. Young people require clear, accessible and age-appropriate information about nicotine dependence and the potential health consequences of e-cigarette use, while addressing misconceptions about vaping being a harmless alternative to smoking.

Continued Use and Cessation

Differences between current and former users provide further insight into factors that may sustain or interrupt vaping behaviour. Continued use was associated with peer environments, accessibility, enjoyment, flavours, stress and established habits. Former users, however, described health concerns, financial costs, family influence, changing friendship groups and personal motivation as contributing to cessation.

Importantly, cessation was rarely attributed to one factor. The findings indicate that both continued use and cessation occur within a combination of individual and social circumstances. This reinforces the need for interventions that extend beyond knowledge-based education and consider peer networks, family support, social norms and access to cessation support.

The experiences of former users may be particularly valuable when developing interventions. Their accounts can help identify locally relevant factors that support cessation and could inform peer-based messaging and cessation strategies for young people who already vape.

Understanding of E-cigarette Regulation

Participants demonstrated limited and inconsistent understanding of the regulatory environment surrounding e-cigarettes in Samoa. This is an important distinction from whether regulatory provisions exist. The presence of legislation does not necessarily mean that young people understand the regulations or experience them as effective barriers to access.

Participants' descriptions of obtaining vaping products through social and informal networks further highlight the importance of considering how regulation operates in practice. The findings therefore raise questions about public communication, implementation, enforcement and the capacity of existing regulatory mechanisms to respond to evolving vaping products and supply pathways.

Rather than the study itself establishing whether Samoa's legislation is adequate, these findings provide local evidence supporting further examination of the regulatory environment. This could include reviewing youth access, informal supply, promotion, enforcement and young people's understanding of existing restrictions. Such consideration should form part of a broader tobacco-control response alongside prevention, health promotion, surveillance and cessation support.

Overall Implications

The findings of this study highlight the need for a coordinated and culturally grounded response to youth vaping in Samoa, addressing social influence, risk perceptions, access, and individual circumstances. Priority should be given to peer- and family-centred prevention, targeted health communication, accessible cessation support, strengthened surveillance, and effective regulatory measures. Responses should be tailored to Samoa's social and cultural context, leveraging families, schools, communities, and trusted local networks to reduce initiation and support cessation.

Actionable Recommendations

Drawing on participants' experiences and the key themes identified in this study, the following practical actions are recommended for the Samoan context:

1. **Review the implementation of existing tobacco-control legislation.** The Ministry of Health and relevant regulatory agencies should assess how effectively existing provisions relating to electronic nicotine and non-nicotine delivery systems are being implemented and enforced, with particular attention to youth access, importation, sale, supply, advertising, promotion, and emerging vaping products.
2. **Strengthen school and tertiary-based prevention.** Vaping prevention and health education could be incorporated into existing health-promotion programmes within secondary schools, NUS, USP, and

other tertiary institutions.

3. **Engage families and communities.** Prevention strategies should recognise Samoa's social and cultural context by engaging parents, families, churches, community organisations, and youth groups in communicating consistent messages around vaping and nicotine use.
4. **Strengthen surveillance.** E-cigarette indicators should be incorporated into national tobacco and adolescent health surveillance to monitor prevalence, age of initiation, frequency of use, access pathways, product types, and perceptions of harm.
5. **Undertake further regulatory research.** Further investigation is required to understand the availability, importation, retail and informal supply of vaping products in Samoa and determine whether the current regulatory framework adequately responds to the changing e-cigarette market.

Strengths and Limitations

A major strength of this study was its focus on an emerging public health issue for which locally generated evidence in Samoa remains limited. The qualitative design enabled participants to provide detailed accounts of their experiences and allowed social and contextual influences to emerge that may not have been captured through a quantitative survey. The inclusion of both current and former users also enabled comparison of factors associated with initiation, continued use, and cessation. Recruitment from NUS and USP Samoa Campus provided some variation in participants' educational and social backgrounds.

Several limitations should be considered when interpreting the findings. First, the purposively selected sample of 30 tertiary students was relatively small and was not intended to be statistically representative of all young people in Samoa. Second, participants retrospectively reported experiences from adolescence, which may have introduced recall bias. Third, volunteer recruitment may have introduced selection bias, as individuals with stronger experiences or opinions regarding vaping may have been more likely to participate. Social desirability bias may also have influenced disclosure given the sensitive nature of the topic and Samoa's relatively small and interconnected social environment.

Finally, the study included tertiary students from NUS and USP and therefore may not capture the experiences of young people who did not continue into tertiary education, adolescents currently attending secondary school, or young people living in different socioeconomic or geographic settings. Future studies should include a broader cross-section of young people across Samoa.

Conclusion

This study provides locally grounded evidence on e-cigarette use among young adults in Samoa who initiated vaping during adolescence. Initiation and continued use were strongly shaped by peer and social environments, alongside accessibility, perceptions of harm, flavours, stress, and established patterns of use. Cessation reflected multiple influences, including health concerns, cost, family influence,

changing social environments, and personal motivation. Participants also demonstrated variable knowledge of vaping-related harms and limited understanding of the regulatory environment.

These findings suggest that youth vaping in Samoa should be addressed as both a behavioural and social public health issue. A coordinated response should combine culturally appropriate prevention, peer and family engagement, cessation support, strengthened surveillance, and clearer communication and implementation of existing regulatory measures. Further research involving a broader range of young people is needed to monitor emerging patterns of use and inform Samoa's evolving tobacco-control response.

Declarations

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Declaration of Generative AI and AI-Assisted Technologies in the Writing Process

During the preparation of this manuscript, the authors used Grammarly, an AI-assisted writing tool, to improve grammar, language, and readability. Following the use of this tool, the authors reviewed and edited the manuscript as necessary and take full responsibility for the content of the publication.

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