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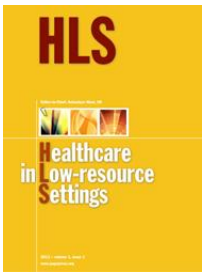


eISSN: 2281-7824

https://www.pagepressjournals.org/index.php/hls/index



Healthc Low-resour S 2024 [Online ahead of print]

*To cite this Article:*

Tri Astuti Sugiyatmi, Lukman Handoko, Alfrid Sentosa, et al. **Examining the onset and cessation patterns of active smoking among college students: an interpretative analysis.** *Healthc Low-resour S* doi: 10.4081/hls.2024.13023

**Original Research**

# Examining the onset and cessation patterns of active smoking among college students: an interpretative analysis

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**Running title:** Examining the onset and cessation patterns

**Acknowledgment:** The authors are grateful all of the participants who voluntarily participated in the research.

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**Keywords:** active smoker; cigarette;smoking behavior

**Contributions:** The authors contributed equally. conceptualization: TAS; data curation; TAS, LUH & ALS; methodology; TAS, LUH & ALS; supervision : FIT&SMU; validation & writing–review & editing; TAS &ITR.

**Conflict of interest:** The author declares no potential conflict of interest.

**Funding:** This research received no external funding

**Clinical trials:** Not applicable**.**

**Conference presentation:** Part of this article was presented at the 4th International Nursing and Health Sciences Symposium, from 27th-28th of October 2023, Universitas Brawijaya, Malang, East Java, Indonesia.

**Significance for public health:** The investigation into active smoking among campus residents represents a significant contribution to public health. In addition to outlining daily smoking habits, insights are also provided into smoking initiation and cessation strategies. Furthermore, this research offers different perspectives concerning the reactions to smoking prohibition signage. The results are poised to equip policymakers on campus with valuable data to initiate the implementation of health-promoting policies.

**Abstract**

Smoking is a prevalent global issue, with a significant risk factor for various non-communicable diseases necessitating prolonged, costly, and potentially devastating medical treatments. In addition, infectious diseases such as tuberculosis, COVID-19, and pneumonia in toddlers are often associated with active and passive smoking habits. The correlation is evident across diverse demographics, encompassing individuals of varying ages, professions, and genders. Therefore, this research aimed to explore and describe behavior of active smokers among campus members at various universities, focusing on the initiation, cessation, and influencing factors associated with smoking.

A qualitative research design was used with a hermeneutic phenomenological approach, where information was provided by five active smoker informants.

These individuals started smoking as teenagers, and the fluctuating patterns were influenced by health concerns or a perceived lack of significance attributed to smoking. However, the periods of abstinence were only temporary due to the pervasive influence of social and environmental factors. The initiation of smoking commonly started from the influence of close acquaintances, such as family members. Meanwhile, the process of quitting encountered numerous obstacles, primarily from potent social factors outweighing personal intentions.

The implementation of smoking cessation strategies posed challenges due to the profound impacts of addiction, requiring unwavering determination, comprehensive plans, and diligent efforts.

## Introduction

Cigarettes and smoking behavior are risk factors for various chronic degenerative non-infectious diseases such as hypertension,[1] heart disease, and stroke,[2] diabetes mellitus,[3] chronic obstructive pulmonary disease,[4] and various types of cancer.[5] These conditions are collectively classified under non-communicable diseases (NCDs).[6]

Cigarettes are recognized as a risk factor for acute disease among *second-hand smokers*, such as pneumonia in toddlers.[7-9] In addition, smoking is also a risk factor for contracting COVID-19 with evidence showing elevated rates of hospitalization, severity, and mortality.[10-12] Cigarettes serve as a gateway to drug use and result in significant economic losses.[13]

According to data from the World Health Organization (WHO) in 2021, more than 80% of the 1.3 billion tobacco smokers worldwide resided in countries with low and middle incomes. Furthermore, results from the 2021 Global Adult Tobacco Survey (GATS) reported that 34.5% of the Indonesian population were adult smokers, totaling 70.2 million. Over the past decade, there has been a significant increase in the number of adult smokers, rising from 8.8 million out of a population of 60.3 million in 2011 to 69.1 million in 2021. This increase represents approximately 28.96% of the population, as reported by the Central Statistics Agency.[14]

The absence of Indonesia's ratification of the Framework Convention on Tobacco Control (FCTC) has contributed to the normalization of cigarettes and smoking behavior among members of the academic community, and this normalization has pervasive effects.[15] To mitigate the widespread distribution of tobacco products, Government Regulation No. 109 of 2012 concerning the Safeguarding of Materials Containing Addictive Substances in the Form of Tobacco Products for Health mandates the establishment of Smoke-Free Zones, known as "Kawasan Tanpa Rokok" (KTR). These zones include various locations, such as educational institutions, health facilities, children's playgrounds, places of worship, and public transportation areas. In the designated zones, the presence of ashtrays, smoke, odor, cigarette butts, advertisements, and the sale of cigarettes is strictly forbidden. The

regulation shows the commitment to improving environments that promote public health and prevent tobacco use.[16]

The college campus is an important site for the facilitation of teaching and should be officially designated as a Smoke-Free Zone. In light of these regulations, educational institutions, and the administrations, are expected to show compliance. Campuses are integral components of higher education and are duty-bound to adhere to the mandate. Despite the majority of students being of legal adult age, ensuring the well-being of all parties remains important, showing the rationale behind the implementation of non-smoking areas across campus environments.

In practice, appropriate Tobacco Control Regulations (KTR) conducive to the educational environment have not been enacted in numerous academic institutions. Campuses with a focus on health sciences remain deficient in implementing or overseeing KTR, despite the explicit stipulations outlined in Government Regulation No. 109 of 2012.

The prevalence and exposure to passive smoking in universities can be reduced with the assistance of tobacco control programs.[17] In this context, basic information is collected from staff and students, to assess behavior and attitudes related to the implementation of tobacco control policies throughout campus.[18-21] Therefore, this research aims to observe and describe the experiences of active smoking by students, lecturers, and educational staff, focusing on the initiation, cessation, and the associated influencing factors.

## Materials and Methods

The research adopted a qualitative method using a hermeneutic phenomenological approach to comprehend the processes by which campus members initiate smoking, the nature of current habits, and inclinations toward cessation. Purposive sampling was used to select participants, comprising active smokers from various campus constituencies such as students, faculty, and administrative staff. Meanwhile, individuals who declined to participate in the research were excluded. The participants

were drawn from three distinct cities, namely Surabaya, Tarakan, and Palangkaraya. The research used semi-structured, in-depth interviews conducted through face-to-face, telephone, or video calls, based on the preference of the participant, supplemented by non-participant observation of the activities. Subsequently, interviews were recorded, transcribed, and analyzed. Before commencement, informed consent was obtained from all participants, and the interview sessions commenced in early 2023 following approval.

Interpretative descriptive techniques were used to explore the data related to smokers' experience regarding the initiation, cessation, and associated influencing factors. In addition, the results were audio recorded and transcribed, as well as analyzed using a flexible seven-step Interpretative Phenomenological Analysis (IPA) approach. Manual method of analysis was adopted using the following steps: 1) Repeatedly reading the transcript compiled from the interview results, 2) Checking the meaning of the words and the language used at the exploratory stage, 3) Developing themes, 4) Looking for the same relationships between themes, 5) Moving to the next case, 6) Obtaining similar patterns between cases, and 7) Describing the main theme.

The three main questions that the participants were asked were:

1. "When did you start smoking and what was your experience"?
2. "How is your current smoking behavior and what are the supporting and inhibiting factors?"
3. "How do you plan to quit smoking?"

**Results and Discussion**

Table 1 presents the demographic characteristics of the study participants, including gender, age, marital status, occupation, education, and faculty origin. Based on data analysis from interview transcripts, three main themes were found, with 12 super-ordinate themes. A summary of the main and super-ordinate themes can be seen in Table 2. Table 3 shows the current smoking behavior of informants.

***First Theme: Beginning to Smoke***

The initial exposure to smoking typically commenced with experimentation, where some participants perceived the act as a fashionable way to expand social circles. Conversely, the influence of peers led to the adoption of similar smoking behaviors, resulting in addiction.[22-23]

*".....at first I tried it, it felt good"... (inf 1)*

*"It looks cool or to add to the social circle of friends like that. To hang out with friends, but I started to try smoking early"... (inf 2)*

*"...it started with trial and error because a friend brought me, finally became addicted until now, I have been smoking since I was 13 or 14 years old when I was still at school" (inf. 3)*

*..." I also followed it from friends, from the environment. At first I didn't know how to smoke, but then I tried it. Over time, I got addicted"... (inf 4)*

*"I started smoking recently, since I was 18 years old, about 6 months ago, after the announcement of SMPTN, I had a lot of free days and I often hung out with friends. Finally, I was influenced by a friend, I tried it, and it was delicious. As far as I know, most people smoke because of prestige, not because they have problems"... (inf 5)*

***Family Influence***

The influence of the family, particularly fathers, significantly impacts children and adolescents in smoking behavior. For instance, participant 3's father, being a smoker, serves as a role model, thereby enhancing a predisposition towards active smoking. This phenomenon suggests a pattern where smoking behavior is perpetuated across generations through emulation within the family environment or the patron-client relationship with the father figure.[24]

*"I was able to become active smoker at first because of my family environment. My father was a smoker and the (people) in the surrounding environment. Although I put limitation and prohibition on my children not to smoke.... in the end my child is a smoker too like us because of his relationships and environment"... (inf 3)*

The influence of family and environment plays an important role in shaping smoking behavior. Even though parental admonitions are important, the efficacy may be diminished when there is no frequency and substantive, logical reasoning. In this context, the pervasive influence of the environment often outweighs warnings, showing the profound impact of surroundings on individuals' smoking habits.

*"I started smoking when I was in junior high school, in grade 2, following a friend's advice. At first, I didn't know smoking, then a friend said to me, "Bro, let's try it. " I started smoking when I was in 2nd grade of junior high school. Once my parents found out it, they scolded me, but after a while, my parents got over it themselves"... (inf 4)*

***Circle or Closest Environment Influence***

Peer groups and the immediate environment contribute to the formation of smoking habits.[25]

*"At first, I didn't smoke and didn't want to smo\ke. But my environment, namely my friends, all smoke. They offer me a cigarette, even though they don't force me to smoke"... (inf 1)*

*"When I started college, I saw my friends smoking. That is in 2009"... (inf 2)*

*"There was a close friend who asked me to smoke cigarettes and I finally tried it. I'm smoking until now. My father is a smoker too"... (inf 5)*

***Second Theme: Current Smoking Behavior***

***Perception***

The perception of smokers who felt positive about cigarettes and smoking habits can be shown by these various comments.[26-27]

*"When you have something heavy to think about, get smoking! You'll feel a little relieved"... (inf 1)*

*"When you don't smoke, you feel stuck, you can't think anything. It seems that smoking can also be a way to find inspiration"... (inf 2)*

*"If you don't smoke, you usually feel dizzy as if something is missing and the mood to think is lost"... (inf 3)*

*" In the past time, I didn't know the reason for smoking, but now the number one reason why I'm smoking is for pleasure. If I don't smoke it's like that something is missing. The number two is that when I'm smoking, it is like that I find a friend to talk to. In a situation when I have a problem, and there is no one to accompany me and no one to talk to. Sometimes when I tell the problem to friends they will tell it to others. In short, smoking is to keep the problem hidden"... (inf 4)*

*"I usually smoke after completing tasks, it feels good and relaxing to smoke"... (inf 5)*

***Places and Companions***

Signs prohibiting smoking serve an important function by dissuading smokers. However, for heavy smokers, opportunities to smoke persist in solitary settings or company of friends, regardless of the presence of the signs.[28]

*"I smoke only when I'm in the boarding house or at home"... (inf 1)*

*"I smoke almost all the time and everywhere: at home, meeting friends, on the street, and at work. I will always smoke"... (inf 2).*

*"I also smoke on campus because there are no signs prohibiting it"... (inf 3)*

*"So far I have never smoked in a place with a No Smoking sign. If there are signs prohibiting smoking then I will leave, look for another place"... (inf 4)*

*"I have never smoked in a place where it is prohibited"... (inf 5)*

***Number of Cigarettes to Consume Everyday***

The daily consumption of individuals varies significantly in terms of quantity, brand, type, and associated costs. Individuals tend to consume larger quantities to satisfy cravings due to increased levels of addiction.[29]

*"Now I can consume 1-2 packs per day"... (inf 1)*

*“When I started smoking, I smoked when I had finished eating. In the beginning, I consumed just three or four cigarettes. After one year the consumption increased, even more until it reached the second year. I think in the second or third year it could be one pack a day, around twelve to sixteen sticks"... (inf 2)*

*"In a day I can consume 2 packs of cigarettes. The expenditure in 1 month is usually uncertain because let's just say it consumes 60 packs each month"... (inf 3)*

*"I usually smoke a cigarette after breakfast, then come home from campus in the afternoon, usually 1 cigarette or 2, and 1 at night"....(inf 5)*

*“In a day I usually smoke 6 sticks of cigarette; usually after lunch and it continues until evening"... (inf 5)*

***Kinds of Cigarette***

The preference for filter cigarettes over "kretek" is often observed for various reasons, with health considerations being particularly important. Despite the inherent health risks associated with all types, individuals may prefer filter cigarettes due to the perception of posing a comparatively lesser risk to health.[30]

*"The type of cigarette I choose is the available one, if it's an expensive one like (mention a certain type/brand of cigarette) the one without a filter, that's fine. But it is often to use filters. It's healthier because there is a sieve or filter to filter out poisons, maybe"... (inf 3)*

*"I usually smoke filter cigarettes, not the “kretek” ones (which are without filter) because cigarette has a filter. I think “kretek” one doesn't taste good. Nicotine and tar can go straight into the mouth. But if it's filtered, it has a filter and the taste is sweeter”... (inf 4)*

*“I prefer the S brand which has coffee flavor. Usually, I choose a cigarette with a filter, because the “kretek’ is easy to make me cough. If I consume it too much, my throat will easily become inflamed"... (inf 5)*

***Expense***

For students without personal income, the price of cigarettes serves as a significant deterrent against smoking. Conversely, individuals with personal income, regardless of social status, tend to show higher levels of consumption on average.

*"Parents know our expense for smoking. Usually, they said to not smoke too much because I could not earn money yet (because I did not have any job yet). It's as economical as possible. If a pack of filter cigarettes costs 25,000, so if you take 4 sticks a day, it means that you can spend 10 thousand rupiah"... (inf 4).*

***Third Theme: Cessation of smoking***

Quitting smoking poses a significant challenge for addicted individuals and the attempts are prompted by health concerns or financial strain. However, for smokers who have not committed to cessation, financial burden and the clear warnings on cigarette packaging serve as effective deterrents to continued smoking.

***Addiction***

*"There is indeed a desire to reduce smoking and to be able to stop, but for now it is very difficult to give it up because it is tied to the addictive taste of cigarettes"... (inf 1).*

*"Because smoking is ingrained in me, it tends to be that if I don't smoke for a long time, between 1 and 2 hours, I will get dizzy and my concentration will be decreased due to not smoking"... (inf 3)*

***Efforts to reduce or to stop smoking***

*"The expenses are increasing, so I want to stop"... (inf 1)*

*"There are plans to stop, but for now I'm still just reducing the consumption because I'm getting older. I still don't know about the disease (which I will suffer because of it), but when I wake up in the morning I usually have a cough. Hopefully, in the future I can get rid of the addictive taste of cigarettes"... (inf 2)*

*"There are also efforts to reduce smoking because there is a fear that my child will follow smoking behavior of his parents, specifically me. But I don't know for sure when I will stop. Even though I have heart disease and have had a ring installed, I don't know when I want to stop smoking"... (inf 3).*

*"I have the intention that I will stop smoking when I have a wife, but now I am still undecided whether I want to stop or I do not want to stop. Sometimes I don't smoke for 2 days but then the next day I look for another cigarette"... (inf 4)*

*"To stop, I haven't any plan about it and I don't know when to stop"... (inf 5)*

***Low Intention to Stop Smoking***

*"I want to stop smoking, but it depends on my environment. So it's still hard to quit smoking right now"... (inf 1)*

*"I felt that smoking wasn't worth it but in the end, I went back because I was working on a project and there were also environmental impacts"... (inf 2)*

***Other Factors Influencing Smoking Habit***

*Pictorial Health and Written Warning*

Many graphic warnings on cigarette packs are reported to have little impact on smoking habits due to a variety of reasons. Meanwhile, several responses were provided when participants were questioned about the impressions of pictorial warnings on cigarette packs.[31]

*"I choose a cigarette pack with a picture of a smoker with a hole in his neck. At first I was afraid but now I'm not afraid anymore, because I'm used to it"... (inf 1)*

*"It doesn't matter, even though I have a friend who has had a hole in his throat because of smoking, but it doesn't matter that I am still smoking, even though I know the dangers, I continue to smoke. Some people who don't smoke can get sick anyway, so they won't be affected by those pictures"... (inf 2)*

*"Visual messages on cigarette packs do not affect the desire to smoke or to quit if you are used to smoking, in my opinion, the social environment is more dominant"... (inf 3)*

*"I know that advertisements like "Smoking Kills You" and "it can cause impotence" remind me of the dangers of smoking. But because I have been addicted to cigarettes, it is difficult not to smoke anymore"... (inf 4)*

*"We are only responsible for ourselves. The point is, it only doesn't affect me... Warning images are on every cigarette pack except for homemade cigarettes. But it doesn't affect me either"... (inf 5)*

Qualitative research contributes significantly to the understanding of active smokers on campus, analyzing the diverse factors related to initiation and cessation. The results show that the age of the onset for smoking among participants varied widely from junior high school to college years as university students. Despite the perception that students, typically aged over 18, are considered adults, this does not imply implicit permission for smoking. However, the prevailing situation often reflects a relaxed attitude towards smoking. This is evident in the proliferation of cigarette butts and the commonality of smoking behavior with minimal restrictions in place.

In this research, female representation as informants was challenging to recruit compared to men. In line with other previous results, female and male smokers were identified simultaneously (27). The perceptions among female smokers did not center on concerns regarding the risks of mortality or addiction but on positive associations with smoking activities.

Campus, as an educational institution, has the responsibility of implementing Smoke-Free Zones or "KTR" but there remains inconsistency in the enforcement. In non-health campuses, the absence of signposts prohibiting smoking and designated non-smoking areas (KTR) is important. Despite the educational nature of campuses, adherence to regulations governing tobacco control is crucial and requires consistent enforcement.

Addicted students, staff, and lecturers frequently indulge in smoking on campus. This behavior is particularly evident in areas where there are no signs showing campus as a KTR zone. The preferred locations for smoking are secluded corners obstructed by walls or staircases, away from parking lots. The presence of signs and prohibitions is crucial since the absence provides a sense of freedom to smoke among campus residents.

The perception that smoking is fashionable and serves as a coping mechanism for stress relief and inspiration is widely accepted, enticing many individuals to become active smokers. This is often reinforced by attractive and misleading advertising signs. The context refers to the direct acceptance or uptake of something, influenced by sensory experiences. Perceptions regarding smoking, behavior, and the enforcement of KTR in educational settings are connected to patterns of attitudes concerning smoking habits.[32-33]

The positive perception of smoking among participants progressively reinforced favorable attitudes toward behavior. Therefore, the overpowering factor of nicotine addiction is often considered during pain or diagnosis of sickness. Instances of heart disease among participants occurred at 40 years of age, which is younger than the average age of developing the conditions, typically at 45 or older.[6] In addition, heart disease diagnosis failed to prevent smoking habit of a participant since the act was resumed after a definitive therapy.[16,34]

Efforts to cease smoking remain a significant challenge for active smokers on campus. Therefore, a proactive role must be assumed in tobacco control by instituting designated No-Smoking Areas. This measure would effectively limit the areas where active smokers can indulge in the habit. Additionally, the installation of signs is crucial in improving a healthy campus environment. Many valuable lessons can be obtained through the successful implementation of KTR.[35-37]

## Conclusions

In conclusion, this research was carried out to explore the factors contributing to individuals becoming active smokers, with a particular focus on social interactions and familial influences within the immediate environment. The awareness and acknowledgment of health and financial consequences associated with smoking habits were examined. However, there was a tendency to disregard the issue concerning active smokers. The implementation of smoking cessation strategies proved challenging due to the profound impacts of addiction without a resolute determination, comprehensive plans, and diligent efforts. This study is limited by the constraints of qualitative research, which generally hinders the generalization of results. Furthermore, the participants were drawn from diverse campuses in different cities, encompassing various types and classes.

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**Table 1. Characteristics of Informants**

| Initial Name | Gender | Age | Marital Status | Occupation | Education | Faculty |
|---|---|---|---|---|---|---|
| X | Female | 20 y.o | Unmarried | Student | Senior High School | Health Sciences |
| Y | Male | 31 y.o | Married | Administra-tive staff | S1 Non Health Sciences | Non-Health Sciences (Safety Enginee-ring) |
| Z | Male | 43 y.o | Married | Lecturer | S2 | Non-Health Sciences |
| A | Male | 19 y.o | Unmarried | Student | Senior High School | Health Sciences (Safety Enginee-ring) |
| B | Male | 19 y.o | Unmarried | Student | Senior High School | Health Sciences (Safety Enginee-ring) |

**Table 2. Summary of Main Themes and the Superordinate Themes**

| Main Theme | Superordinate Themes |
|---|---|
| Beginning to Smoke | First Experience |
| | Family Influence |
| | Closest circle and environment Influence |
| Current Smoking Behavior | Perception |
| | Place and Companion while smoking |
| | Number of Cigarette to consume everyday |
| | Influence of Advertisement or Pictorial Health Warning |
| Plan to Stop Smoking | Be Addicted |
| | Effort to reduce/stop Smoking |
| | Intention to stop Smoking |

**Table 3. Current Smoking Behavior**

| Initial | When start smoking | First cigarette to smoke in the day | The next smoking | Companion | Number of Cigarette to smoke in a day |
|---|---|---|---|---|---|
| X | 19 y.o | Just after wake up in the morning | Anytime or at every free time | Alone or with friends | 1-2 packs |
| Y | 18 y.o | After breakfast | After meal and break time | Alone or with friends | 1 pack |
| Z | 13 y.o | Just after wake up in the morning | Any time | Alone or with friends | 2 packs |
| A | 6 y.o | After breakfast | After school time | Alone or with friends | 2-5 pieces |
| B | 18 y.o | After lunch | Evening | Alone or with friends | 6 pieces |