

Exploring the Prevalence and Impacts of E-Cigarette Use among College Students During Leisure Periods: A Review Article

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Abstract: *The review article aimed to gather information regarding electronic cigarette (e - cigarette) smoking as a leisure activity among college students in India. Many research articles are diversified towards different aspects of tobacco use, such as the effects on academics, the COVID - 19 period, friend zones, etc., among students. This review aims to examine the role of e - cigarette smoking as a leisure activity among college students, assessing its prevalence, positive and negative impacts, and the implications for student well - being and academic performance. Only nineteen research articles specifically address e - cigarette use as a leisure activity among college students. The reviewed articles were published between 2014 and 2024. Eight databases were searched: PubMed, Scopus, Embase, Cochrane Library, PsycINFO, Schematic Scholar, and Research Gate. Studies involved college students aged 18 to 25 from various Indian and international colleges. Few studies have classified e - cigarette use during leisure as "E - cigarette Addiction". E - cigarette smoking as a leisure activity was not reported to be beneficial for college students. In summary, this review examines e - cigarette use as a leisure activity among college students, focusing on its prevalence, impacts, and implications for well - being and academic performance. Nineteen studies published between 2014 and 2024 were reviewed, involving students aged 18 to 25 from Indian and International colleges. The findings reveal that while e - cigarettes are often used for relaxation and social purposes, they contribute to addiction and mental health issues. The study emphasizes the need for further research to mitigate negative outcomes and develop interventions for healthier lifestyle choices.*

Keywords: E - cigarette use, Leisure activity, College students, Mental health, Vaping addiction

1. Introduction

Leisure activities offer pleasure, relaxation, and self - actualization during downtime. They can range widely, from more sedentary pursuits like reading, watching movies, and playing video games to more active ones like sports, hiking, and yoga. It is essential to participate in these activities to improve one's physical and mental health, lower stress levels, and fortify social bonds. Leisure activities are vital to a balanced and healthy life because they stimulate creativity, elevate mood, and give a sense of achievement. Due to its many advantages for both physical and mental health, recreational activities are essential for upholding a balanced and healthful lifestyle. By offering a break from the obligations and pressures of daily life, recreational activities help people reduce their stress levels. Reading, gardening, and listening to music are examples of relaxing hobbies and interests that may lower cortisol levels and encourage calm. By providing opportunities for enjoyment and relaxation, leisure activities enhance mental health and reduce the symptoms of worry and depression. In addition to offering a sense of fulfillment and purpose, hobbies and interests can improve general happiness and life satisfaction. Exercise is a component of many recreational activities, such as sports, swimming, and hiking. It lowers the chance of developing chronic illnesses and aids in maintaining a healthy weight. Participating in recreational activities such as team sports, joining a club, or attending local events typically necessitates social interaction. Relationships are formed, social skills are improved, and a feeling of community and belonging is

created as a result of these encounters. Puzzles, chess, and learning a new language are examples of mentally taxing activities that enhance and promote cognitive function. These mental exercises improve a person's ability to be creative, remember things, and solve problems. Leisure activities offer a much - needed respite from work - related responsibilities, promoting a good work - life balance.

Through leisure activities, people may discover new passions and acquire new skills. Increased self - worth, a more expansive outlook on life, and personal development could result from this research. Endorphins, the body's natural "feel - good" hormones that boost mood and energy, are released during enjoyable activities. This boost has the potential to improve people's everyday lives by boosting their motivation and enthusiasm. People can live healthier, more balanced lives and enhance their quality of life by integrating leisure activities into their everyday routines.

College students' lives are greatly impacted by leisure activities because they provide a much - needed respite from their demanding academic schedules. Sports, pastimes, and social gatherings can all help reduce stress, enhance mental health, and enhance general well - being. By engaging in these activities, kids can build a supportive community, establish friends, and improve their social skills. Leisure activities can improve a person's ability to be creative, solve problems, and manage their time, which will make college more complete and satisfying. By incorporating leisure activities into their

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everyday routines, students can lead happier, healthier, and more productive college lives.

In India, tobacco usage is a serious public health issue. It is associated with greater intensity, longer duration, and fewer attempts to seek treatment for tobacco use in young individuals (Muzammil et. al., 2015). Since a large percentage of youth are enrolled in college, early prevention is more successful during this time. Prevalence may differ between courses, even among students from the same sociocultural background, according to preliminary data. Adolescent smoking behaviors frequently continue into adulthood, resulting in nicotine and tobacco dependency, which is linked to morbidity and early death (Popa et. al., 2021; Karki, 2024). Early tobacco dependence in children has been linked to parental smoking. Approximately 1.3 billion individuals smoke regularly worldwide, and between 8, 200 and 9, 900 young people start smoking every day, increasing their chance of developing a nicotine addiction quickly. The time between high school and college is crucial for forming healthy lifestyle choices.

In the United States, teens and young adults are using electronic cigarettes, or vaping, at epidemic levels. Among young college adults aged 18 to 25, using electronic cigarettes is the most common type of tobacco consumption (Menon et. al., 2020; Vilcassim et. al., 2023). Young adulthood also brings with it the emergence of mental health conditions like anxiety. To better comprehend the cycle of addiction among e - cigarette users, it is necessary to describe the experience of e - cigarettes among college students. Electronic cigarettes, or e - cigarettes, have gained popularity quickly since their introduction, particularly among young people (Igboanngo, 2020). They are said to be a better way to get nicotine than cigarettes and are meant to help people stop smoking. However, research has indicated that they include heavy metals, nitrosamines, polycyclic aromatic hydrocarbons, formaldehyde, and acetaldehyde, among other carcinogens. E

- cigarette use has the potential to cause the emergence of illnesses. People who are passively exposed to the aerosol components of e - cigarettes may potentially suffer negative health effects. Understanding the recreational use of e - cigarettes among college students is vital to developing targeted interventions that address both mental health challenges and addiction concerns within this demographic.

2. Material and Methods

Eight databases were searched: PubMed, Scopus, Embase, Cochrane Library, PsycINFO, Schematic Scholar, and Research Gate. The range of duration of published articles is limited between 2014 and 2024. Works involving college students of 18 to 25 years of age and from different colleges in India and abroad are considered for inclusion in this review article. Articles written on various other aspects of e - cigarette use like their importance in the social field, their relation with different physical and mental issues, activities related to social and cultural behaviors, etc. are excluded as these articles are not found to be fit for selection. Articles written only on the use of this type of cigarette in periods other than leisure periods were excluded from this article also. Articles written in the English language are considered. The review utilized a systematic approach, including a comprehensive search across eight databases. Criteria for inclusion were limited to studies published between 2014 and 2024, focusing on e - cigarette use during leisure time among college students. Data were analyzed based on thematic trends and the impact of e - cigarette use on mental health.

3. Results and Discussion

Only nineteen research articles are found to be dedicated to the use of e - cigarettes during leisure activities among college students. The colleges are chosen from both India as well as from outside India.

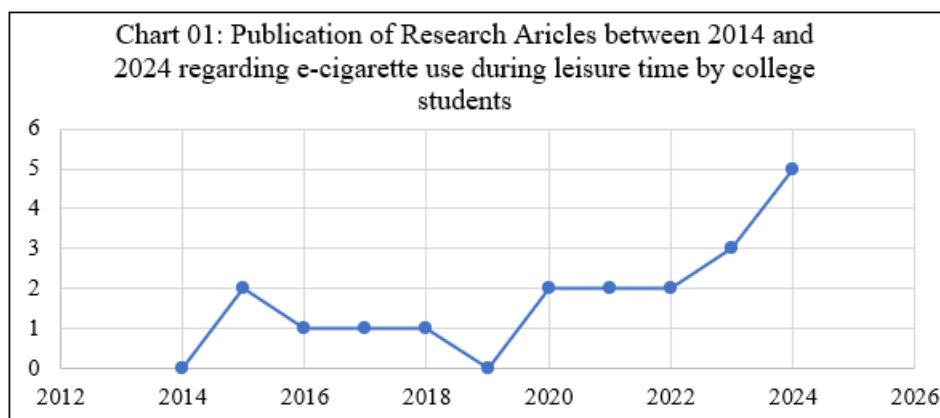


Chart 1 indicates the present trend of research work regarding the use of e - cigarettes during leisure periods by college students in India and abroad. The amount of research

on this topic has increased in recent years and hopes to increase more in the coming times as using e - cigarettes is a burning problem worldwide.

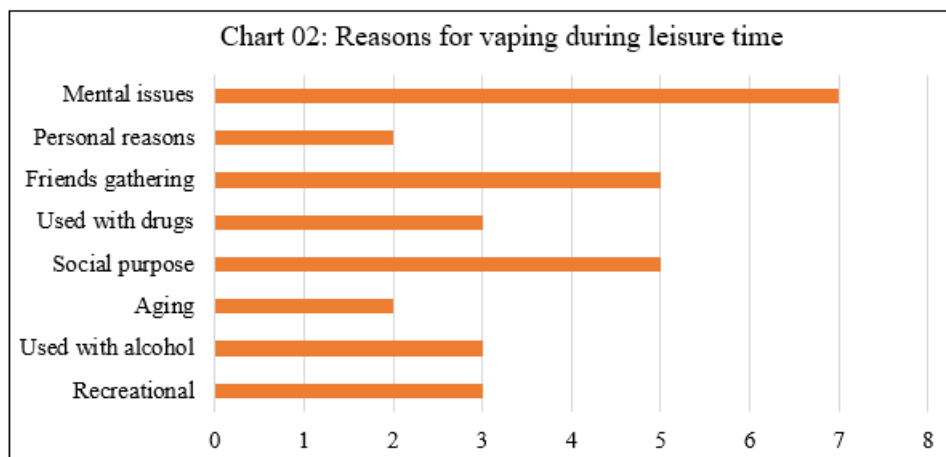


Chart 02 clearly shows various reasons for using e - cigarettes during leisure periods among college students in India and abroad. In the year 2014, no such research article has been found covering this topic. In the year 2015, Roji et. al. chose a random sample of 576 students from different colleges in Karachi, Pakistan for a study. The study reported that, as age increases, the habit of using e - cigarettes during leisure periods among college students also increases. Some mental issues like anxiety, depression, and loneliness are also reported to be the cause of vaping. A total of 599 participants were taken from colleges to survey the prevalence of the use of e - cigarettes during leisure periods. Twenty - nine percent of participants reported prior use of the item, with 14% reported using it for the last 30 days. The study concluded that e - cigarette use among college students is gradually increasing with the use of alcohol and drugs (Littlefield, et. al., 2015). A cross - sectional study was conducted on 5482 college students in Texas. The study reported that the students were addicted to e - cigarettes during the college life. Some of the participants were found to be addicted to conventional cigarettes along with e - cigarettes during their leisure time (Cooper et. al., 2016). A total of 2720 French - speaking college students were included in a study to study the prevalence of e - cigarette use among college students during their leisure periods. Among the participants, 3.6% were current users. The reasons for smoking e - cigarettes were reported to be happiness, personal reasons, and social gatherings during leisure time (Kinouani, et. al., 2017). In the year 2018, a total of 586 students participated in the study. The study found that e - cigarette smokers were predominantly male. The prime cause of vaping was reported to be the social purpose (Korzeniowska et. al., 2018). A total of 1476 college students took part in a study to determine the causes and effects of e - cigarette use during leisure periods. More male participants aged 18 - 20 years were reported to be engaged in daily vaping. Among vapers, 67.4% vap from curiosity and, 14.4% for enjoyment (Wamanili et. al., 2020). Firth et. al., in the year 2020 conducted a study including 2086 college students with the help of a survey in the United States. The study reported that students like to use e - cigarettes during leisure periods while in social gatherings and group chatting with friends. The use of e - cigarettes has increased extensively due to stress and other mental issues. Across the United States, a survey was conducted to know the reason for using e - cigarettes among college students in their leisure time. The result reflects that during their leisure time, almost 67.7% use e - cigarettes when they have mental issues and

83.5% agreed that e - cigarette is highly associated with alcohol consumption. 43.7% reported that during stress, they use e - cigarettes to find happiness (Daniel et. al., 2021). Kurdi et. al; 2021 conducted a self - administered cross - sectional study on college students in Qatar. A total of 199 students completed the questionnaire. 40.4% of students believed that e - cigarettes can prevent the addiction of traditional cigarettes. The study reported that there are massive gap in knowledge regarding e - cigarettes which provokes students to take the same during leisure time. A total of 333 students participated in a study to observe the prevalence of e - cigarettes among college students during leisure. 22.8% of students reported that their smoking is recreational (Alsanea et. al., 2022). A study was conducted on college students in the United States regarding their use of e - cigarettes in their leisure time. The study reported that most of the students used vaping products and alcohol at a time for pleasure. They were also addicted to conventional cigarettes and marijuana (Striley et. al., 2022). A total of 394 college - going students participated in a survey conducted by Vilcassim et. al., (2023). 15.5% (61 students) reported the current use of e - cigarettes. Female vapers used disposable e - cigarettes or Juul (pod - type) as their primary vaping device. Male vapers used tank mods and other rechargeable e - cigarettes. Males were also found to vap more than their female counterparts. Mroczek et. al. in the year 2023 conducted a study with 79 medical students (47 women and 32 men) in an e - cigarette - related survey which included the use of e - cigarettes in leisure. The study was conducted in Poland. E - cigarettes were reported to be used mostly in social gatherings along with alcohol. In the United States, a study was conducted by Henn et. al. in 2023 regarding the use of e - cigarettes among college students (n=656). Vaping behavior was studied in detail. 31% of the participants were found to be addicted to e - cigarettes due to frequent social gatherings, chatting with friends, and mental issues. Males were reported to use more e - cigarettes than females. A study on e - cigarette prevalence among college students was conducted on the East Coast of the United States involving 20 students aged 18 - 25 years. The survey reported that this vap culture is associated with life anxiety and loneliness (Stanley, et. al., 2024). With the help of the cluster sampling method, 775 college students were involved in a study to determine the use of e - cigarettes among college - going students of Hangzhon. The result of the study confirms that 16.5% of the students tried e - cigarettes, 6.32% used e - cigarettes in the past month and 8.0% had the intention to use them in the future. The reasons

for using e - cigarettes have been put forward to be personal factors and social reasons (Zou et. al., 2024). Kava et. al. in the year 2024 conducted a study including 55, 654 college - going students to reveal whether there is a connection between the use of e - cigarettes and mental issues. The study reported that alcohol, cannabis, and e - cigarettes are used simultaneously to get rid of various mental issues like anxiety, academic and social stress, fear, depression, etc. A total of 1187 college students participated in a study to learn about the prevalence of using e - cigarettes during leisure periods. According to the result, 37.4% had low dependence, 34.4% had medium dependence, and, 13.8% had high dependence (Aqeeli et. al., 2024). Again in 2024, a cross - sectional study was conducted by Mete et. al. to determine the prevalence and factors affecting e - cigarette use during leisure periods. The study reported that nicotine dependency is high among the participants. Regarding the cause of using e - cigarettes, the report said that family background, mental conditions, and social aspects matter.

4. Conclusion

This review highlights the prevalence and impacts of e - cigarette use during leisure among college students. While serving as a means of relaxation and social interaction, e - cigarette use poses significant risks, including addiction and mental health challenges. These findings underscore the need for targeted public health interventions to promote awareness and mitigate adverse outcomes, fostering healthier lifestyle choices among students.

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