

ORIGINAL ARTICLE

Perceptions of Benefits and Harms of Electronic Cigarettes among Young Adults: A Qualitative Study

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Main Points

- Young adults perceive electronic cigarettes as beneficial in terms of reducing or quitting traditional cigarette use, providing enjoyment, being less harmful, offering ease of use, and being more cost-effective.
- Young adults believe electronic cigarettes are harmful due to the continuation of nicotine cravings, potential health risks, mechanical issues, and cost considerations.
- The majority of young adults prefer using electronic cigarettes because of their enjoyable nature, potential to reduce or quit traditional cigarette use, or perceived lower harm compared to traditional cigarettes.
- Psychiatric nurses should plan and implement educational programs related to addiction to foster societal awareness on the subject.

Abstract

In the global context, understanding the increasingly prevalent use of electronic cigarettes among young adults is crucial, particularly in the fight against addiction. This qualitative study, utilizing phenomenological analysis, explored the perceptions of the benefits and harms associated with electronic cigarette use among young adults. The sample comprised 20 young adults selected through the snowball sampling technique, one of the purposive sampling techniques. The participants voluntarily agreed to take part in the study and met the established inclusion criteria for face-to-face interviews, which were conducted using a semi-structured interview form developed by the researchers. The data underwent content analysis. The findings revealed that young adults' perceptions of the benefits of electronic cigarettes fell into five categories, while perceptions of harms were grouped into four categories. The study concluded that young adults often perceive electronic cigarettes as a means to reduce or quit traditional smoking, as pleasurable, or as less harmful compared to traditional cigarettes. It is recommended that future research includes larger samples and employs both quantitative and qualitative approaches to further investigate the experience of using electronic cigarettes. Additionally, counseling services related to addiction, especially provided by psychiatric nurses, are recommended to raise societal awareness.

Keywords: Electronic cigarette, qualitative study, young adults

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Introduction

The electronic cigarette (e-cigarette), defined as a nicotine source designed in the form of a pen or accessory, resembling the appearance of traditional cigarettes and facilitating the continuation of smoking behavior, is increasingly becoming a public health concern among young adults (Gades

et al, 2022; Gupte et al, 2022; Harton et al, 2023). According to the Tobacco and Nicotine Survey conducted in Canada between December 2020 and January 2021, 15% of young people aged 20-24 reported using e-cigarettes in the previous month, and 48% reported having used e-cigarettes at least once. Similarly, in the United States, there has been

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an increase in e-cigarette use among young adults aged 18-29 in recent years (Pew Research Center, 2019). Fu et al (2018) reported in a large population study conducted in 6 European countries that 32% of young people think positively about e-cigarettes, and 81% had used e-cigarettes at least once. In our country, no community-based prevalence study has been found to determine the use of e-cigarettes. However, in a study conducted by Ogan et al (2019) with medical faculty students, it was stated that 43.7% of the participants used e-cigarettes.

A study on the subject has found that e-cigarettes can arouse the curiosity of young adults due to various flavor aromas such as mint, vanilla, chocolate, and scent-enhancing properties, leading them to prefer e-cigarette use (Huma et al, 2022). Kechter et al (2023) state that e-cigarette use among young adults is increasing day by day for weight control purposes. Furthermore, the marketing of e-cigarettes as an aid to quit traditional smoking also contributes to the preference for e-cigarette use among young adults (Ogan et al, 2019). A review of the literature reveals that the belief in e-cigarettes being less harmful than traditional cigarettes, the perception that they reduce stress, and the opportunity to use them in prohibited places make e-cigarettes appealing to young individuals (Bennett et al, 2023; Fadus et al, 2019). Additionally, WHO (2023) called for urgent action to control e-cigarette use. This observation underscores the severity and significance of the issue.

It is asserted that e-cigarettes are used by current smokers, those who have quit smoking, or those considering quitting, and that they can facilitate addiction (Jackler & Ramamurthi, 2019). The literature also emphasizes the relationship between e-cigarette consumption and substance use (Harton et al, 2023; Staff et al, 2020). Globally, delving into the reasons for e-cigarette use among young adults, as well as their attitudes and perceptions towards e-cigarettes, becomes crucial in the fight against addiction. Similarly, it is anticipated that the findings of this study will guide all healthcare professionals in planning and implementing effective interventions for e-cigarette addiction across primary, secondary, and tertiary prevention levels. Additionally, a review of the national literature indicates limited studies on the subject, highlighting the necessity for current research in the existing literature (Atlam et al, 2020; Mutlu et al, 2023; Özpulat & Öztaş, 2020; Sayılı et al, 2020). To contribute to the national literature and gain an in-depth understanding of why risky behaviors such as e-cigarette use are exhibited by young adults, it is believed that examining the perceptions of the benefits and harms associated with e-cigarettes would be beneficial. In this context, this study aims to determine young adults' perceptions of the benefits and harms of e-cigarettes using qualitative research methods.

Material and Methods

Study Type, Participants and Settings

In this study, a phenomenological design, one of the qualitative research methods, was employed with the aim of uncovering young adults' perceptions of the benefits and harms associated with e-cigarettes and their experiences in-depth (Kümbetoğlu, 2008). Phenomenological research is approached in 2 distinct forms: descriptive phenomenology and interpretative phenomenology. Given that the primary objective in descriptive phenomenology is to depict individuals' perceptions and experiences, this

approach was adopted for the study (Ersoy, 2016). Within the framework of qualitative research traditions, the purposive sampling method known as snowball sampling was utilized in this research. To initiate snowball sampling, the researchers established a connection with a young adult who used e-cigarettes within their social network (e.g., neighbor, friend). Subsequently, with the assistance of the initial participant, contact was established with other users. This facilitated the expansion of the sample in a cascading manner, commonly referred to as the snowball effect (Yıldırım & Şimşek, 2016).

In qualitative research, there are no strict rules or specific numbers regarding the pre-determination of sample size, but it is recommended to select participants until saturation and redundancy levels are reached based on the expressions of the participants in the study (Liehr et al, 2005). Therefore, the sample size calculation was not conducted in this study. The point of "saturation" was considered to be reached when no new information regarding a benefit or harm related to e-cigarette use could be obtained from the participants. Consequently, the study was concluded with a total of 20 young adults. There were no participants who refused to participate or dropped out during the study. The study included young adults aged 18-35 who had been using e-cigarettes for at least 6 months and were willing to share their experiences by participating in the study. Many different age ranges are defined for the young adulthood period in the literature. Havighurst limited this period to 18-35 years (Zastrow & Kirst-Ashman, 2015), and in this study, the age range determined by Havighurst was taken as the basis.

Data Collection Tools

The researchers used a Personal Information Form and a Semi-Structured Interview Form, prepared within the literature framework (Huma et al, 2022; Simmons et al, 2016; Simpson et al, 2021), to collect data aiming to determine participants' socio-demographic and e-cigarette usage characteristics. The Personal Information Form included variables such as age, gender, marital status, education level, smoking status, duration of e-cigarette use, and contemplation of quitting e-cigarettes. Specific data for the study were collected through individual interviews using the Semi-Structured Interview Form. All individual interviews were conducted by the researcher(s) in collaboration with young adults with experience in e-cigarette use. Prior to the data collection phase, a pilot study was conducted with 2 participants. These participants confirmed that there were no expressions in the semi-structured interview form that were not understood, and therefore, no changes were made to the expressions in the form.

Data Collection

The data were collected between April 25, 2023, and June 25, 2023, through face-to-face interviews in a quiet and peaceful environment with the participants. During the interviews, no one other than the participant and the researcher was present in the room. Before starting the interview, the participant was informed about the purpose of the study, and written informed consent was obtained. Once the participant approved, the interview commenced. The Personal Information Form and Semi-Structured Interview Form were given to the participants by the researchers, and they were asked to answer the questions both in writing and verbally. To focus the participant and researcher on the relevant topic, the interview began by

exploring the participant's initial experiences with e-cigarettes. Following the framework of relevant literature (Pokhrel et al, 2015; Simmons et al, 2016; Simpson et al, 2021), participants were expected to express their thoughts on the benefits of young adults' e-cigarette use (initial impressions, positive aspects they liked, and positive thoughts about usage) and their perceptions of harms (negative thoughts and aspects that might lead to quitting). Additionally, participants were asked to share their thoughts and experiences regarding reasons for using e-cigarettes and their thoughts on using them alongside traditional cigarettes. Throughout the interview, the researchers remained flexible, maintained an open approach, and minimized subjectivity. The data collection process lasted an average of 30 minutes. Interviews with participants who allowed recording were recorded using an audio recording device. Participants were informed that survey forms could be provided for them to offer comments or edits, but there was no further interview between participants and researchers.

Data Analysis

The socio-demographic and e-cigarette usage characteristics of young adults were evaluated using the IBM SPSS Statistics 24 (IBM SPSS Corp.; Armonk, NY, USA) software package and expressed in numbers and percentages. The analysis of study-specific data was conducted based on the principles of content analysis. The aim of content analysis is to reach concepts that can explain the collected data and relationships between these concepts (Baltacı, 2019). In this process, concepts and themes related to the studied subject are identified, similar data is systematically collected, organized, and interpreted (Elo et al, 2014). In this study, open coding was initially performed. Both researchers separately read the semi-structured interview forms, took notes on participants' perceptions of the benefits and harms of e-cigarettes, and created maximum concept categories. Quotations were coded for gender, age, and marital status (e.g., M-1, 25, Single; F-4, 19, Single). Additionally, the study was reported following the Consolidated Criteria for Reporting Qualitative Research (COREQ) guidelines commonly used for reporting qualitative research.

Trustworthiness

Guba and Lincoln (1982) emphasized the importance of credibility rather than validity and reliability in qualitative research and identified 4 criteria considered as the gold standard. These criteria include credibility, dependability, confirmability, and transferability (Guba & Lincoln, 1982). To ensure the credibility of the study, at the end of data collection, researchers summarized the data to determine if it accurately reflected participants' thoughts. Additionally, participants were asked if they wanted to add any perceptions or experiences to confirm their understanding. To enhance the dependability and confirmability of the study, the data, confirmed by participants, were individually reviewed by the researchers using the triangulation method. To ensure transferability, purposive sampling was employed, and detailed inclusion criteria and study group information were provided. After completing the study, an independent expert reviewed the data collected from the study design to the analysis of data and the writing of results. This evaluation aimed to assess the processes and provide feedback to the researchers (Yıldırım & Şimşek, 2016).

Ethical Considerations

Before starting the study, ethical approval was obtained from the Ethics Committee for Non-Drug and Non-Medical Device Research of a KTO Karatay University (Approval No: 030 Date: 2023). Informed consent was obtained from young adults who voluntarily agreed to participate in the research and who had used e-cigarettes at the beginning of the study through the Informed Consent Form. Participants were provided with information about the purpose of the research and how the data obtained from the study would be used, following the principles of the Helsinki Declaration. The principles of "Respect for Human Dignity," indicating that participants are free to participate in the research, "Respect for Autonomy," emphasizing autonomy throughout the study, and "Privacy and Protection of Confidentiality," assuring that responses on survey forms would remain confidential, were adhered to.

Results

When the sociodemographic and e-cigarette usage characteristics of the young adults who agreed to participate in the study were examined, it was found that their mean age was 22.30 ± 3.45 , and the average duration of e-cigarette use was 20.15 ± 19.33 months. It was observed that 60% of the young adults were male, 90% were single, and 85% had a university degree or higher. Additionally, 65% of the young adults used both e-cigarettes and traditional cigarettes, and 80% expressed no intention of quitting e-cigarette use (Table 1).

Table 1.
Sociodemographic Characteristics of the Participants

Variable	Mean \pm SD	
Age	22.30 \pm 3.45	
E-cigarette usage time (months)	20.15 \pm 19.33	
	N	%
Gender		
Male	12	60.0
Female	8	40.0
Marital status		
Married	2	10.0
Single	18	90.0
Education status		
High school	3	15.0
University and above	17	85.0
Smoking		
Yes	13	65.0
No	7	35.0
Thoughts to quit using e-cigarettes		
Yes	4	20.0
No	16	80.0

Young Adults' Perceptions of Benefits of E-Cigarette

The perceived benefits of e-cigarette use among young adults who have experienced e-cigarette usage were examined under 5 main categories and 8 subcategories (Table 2).

Category 1: Reduction/Cessation of Traditional Cigarette Use

When this category is explored, it is observed that 35% of the young adults in the study perceive e-cigarettes as beneficial for reducing or quitting traditional cigarette use, and their expressions align with this perception (Table 2). The common feature in participants' statements is the initiation of e-cigarette use with the intention of reducing traditional cigarette use or quitting traditional cigarettes altogether.

Category 2: Pleasurable Experience

According to the participants in the study, e-cigarette use is perceived as a pleasurable and enjoyable process. The Pleasurable Experience category is discussed in 3 subcategories: Pleasant Smell/Taste, Dense Vapor, and Variety of Flavors (Table 2).

Sub-Category 1: Pleasant Smell/Taste

It is observed that young adults perceive e-cigarettes as beneficial due to their pleasant smell or taste. Eight percent of young adults with e-cigarette experience emphasize their liking for the smell and taste of e-cigarette liquid flavors (Table 2).

Sub-Category 2: Dense Vapor

It is understood from the expressions of the participants that they perceive e-cigarettes as beneficial due to the pleasure derived from dense vapor. 30% of the participants expressed enjoyment in the appearance of dense vapor produced after e-cigarette use (Table 2).

Sub-Category 3: Variety of Flavors

It is observed that 15% of young adults in the study prefer e-cigarettes due to various aroma options (Table 2). They stated that they use e-cigarettes based on their desired tastes and aromas, enjoying the freedom of choice in this regard.

Category 3: Less Harmful

Some participants reported that e-cigarettes are less harmful compared to traditional cigarettes. This category is discussed in 2 subcategories: less unpleasant smell/taste and lower risk of addiction (Table 2).

Sub-Category 1: Less Unpleasant Smell/Taste

It is observed that 55% of young adults perceive e-cigarettes as beneficial due to the fact that they leave a less unpleasant taste or odor compared to traditional cigarettes, and they share their experiences based on this perception (Table 2). They express a preference for e-cigarettes over traditional cigarettes because they find them more appealing in terms of smell and taste, stating that using e-cigarettes makes them feel cleaner compared to traditional cigarettes.

Sub-Category 2: Lower Risk of Addiction

Fifty percent of the participants in the study perceive e-cigarettes as beneficial due to a lower risk of addiction compared to traditional cigarettes (Table 2). They stated that e-cigarette use is less likely to lead to addiction compared to traditional cigarettes,

emphasizing its lower harm. Therefore, they prefer e-cigarette use over traditional cigarettes.

Category 4: Ease of Use

E-cigarette use is perceived as beneficial by young adults in the study due to the ease of use. This category is discussed in 3 subcategories: Indoor Usage Convenience, Extended Usage Opportunity, and Portability (Table 2).

Sub-Category 1: Indoor Usage Convenience

The participants were found to perceive e-cigarettes as beneficial because they can comfortably use them in any environment, regardless of being indoors or outdoors. Twenty percent of the participants stated that they cannot use traditional cigarettes indoors, whereas they can use e-cigarettes indoors. Therefore, they prefer e-cigarette use over traditional cigarettes (Table 2).

Sub-Category 2: Extended Usage Opportunity

It was observed that 5% of the participants perceive e-cigarettes as beneficial because they can be used for an extended period (Table 2). The participants reported that e-cigarettes can be charged at any desired time, allowing for prolonged usage.

Sub-Category 3: Portability

Twenty percent of young adults perceive e-cigarettes as beneficial due to their portability (Table 2). They stated that e-cigarettes can be easily used on the go, emphasizing the simplicity of carrying them.

Category 5: More Economical

It was observed that 25% of the participants perceive e-cigarettes as beneficial because they consider them more cost-effective and affordable than traditional cigarettes (Table 2).

Perceptions of Harm Related to E-Cigarettes Among Young Adults

The perceptions of harm related to e-cigarette use among young adults who have experienced using e-cigarettes were examined, encompassing 4 main categories and 5 subcategories (Table 3).

Category 1: Persistence of Nicotine Cravings

It is observed that 15% of young adults perceive e-cigarettes as harmful due to the persistence of nicotine cravings despite using e-cigarettes (Table 3). A common feature in the expressions generated by the participants is the acknowledgment that substances in e-cigarettes are insufficient in satisfying nicotine needs compared to traditional cigarettes, leading to the continued desire for traditional cigarette use.

Category 2: Harmful to Health

The participants stated that e-cigarette use is harmful to health. The category of harm to health is divided into 2 subcategories: health problems and addiction risk (Table 3).

Sub-Category 1: Health Problems

Some participants perceive e-cigarettes as harmful due to their potential to cause various physiological health problems. Forty percent of the participants expressed occasional discomfort while using or after using e-cigarettes (Table 3). Even if they have not personally experienced such issues, some participants mentioned hearing from their social circles or online sources that e-cigarette use can be detrimental to the lungs.

Table 2.*Perceptions of the Benefits Associated with E-Cigarette Use among Young Adults*

Categories	Sub-Categories	Quotes	Number of Participants	%
Reduction/cessation of traditional cigarette use		<p>“I use both traditional cigarettes and e-cigarettes. After starting to use e-cigarettes, my consumption of traditional cigarettes decreased. Before using e-cigarettes, I used to smoke 20 traditional cigarettes a day, but after using e-cigarettes, I started smoking only 10 traditional cigarettes a day.” (M-6, 23, Single).</p> <p>“I find using e-cigarettes reasonable because it reduces traditional cigarette consumption.” (M-17, 27, Married).</p>	7	35
Pleasurable experience	Pleasant smell/taste	<p>“The delightful aroma of e-cigarettes is one of the favorable aspects that contribute to my positive perception of using them.” (M-1, 19, Single). “I don’t smoke traditional cigarettes. I use e-cigarettes because the aroma is much more pleasant and tasty.” (M-5, 20, Single).</p> <p>“I enjoy using e-cigarettes because the aroma and taste make me feel good.” (M-13, 21, Single).</p>	16	80
	Dense vapor	<p>“I enjoy using e-cigarettes because of their high smoke performance.” (M-10, 20, Single).</p> <p>“I find the formation of visuals resembling hookah smoke while using e-cigarettes very enjoyable.” (M-2, 20, Single).</p>	6	30
	Variety of flavors	<p>“I appreciate the flavored nature of e-cigarettes. For example, I sometimes use chocolate-flavored, sometimes menthol-flavored e-cigarettes.” (M-18, 25, Single).</p> <p>“When using e-cigarettes, you can buy the liquid of the flavor you want and experience the taste of the desired aroma.” (M-4, 20, Single).</p>	3	15
Less harmful	Less unpleasant smell/taste	<p>“When using traditional cigarettes, there is an unpleasant odor on us. However, with e-cigarettes, there is no lingering bad smell. After starting e-cigarette use, the smell of traditional cigarettes seemed very heavy a week later.” (M-5, 20, Single).</p> <p>“I prefer e-cigarettes because they do not leave a bad smell and taste in the mouth like traditional cigarettes.” (M-10, 20, Single).</p> <p>“I believe that e-cigarettes do not have negative effects such as body odor, bad breath, and teeth yellowing, which are present in traditional cigarettes.” (M-15, 21, Single).</p>	11	55
	Lower risk of addiction	<p>“I enjoy using e-cigarettes because they are free from many foreign substances found in traditional cigarettes. For example, you can add the desired amount of nicotine to the liquid tank of the e-cigarette. Since you can adjust the amount of nicotine you will receive, I don’t think e-cigarette use will result in addiction.” (M-16, 31, Married).</p> <p>“I think e-cigarettes are always one step ahead in terms of addiction compared to traditional cigarettes.” (M-10, 20, Single).</p> <p>“In my opinion, the nicotine content in e-cigarettes is lower than that in traditional cigarettes, so the addiction rate is lower.” (M-11, 22, Single).</p>	10	50
Ease of use	Indoor usage convenience	<p>“My initial impression of e-cigarettes was the convenience of being able to use them in any setting, whether open or closed.” (M-2, 20, Single).</p> <p>“Even if the nicotine content in the liquid tank of e-cigarettes increases, you can still use e-cigarettes in enclosed spaces.” (M-16, 31, Married).</p>	4	20
	Extended usage opportunity	<p>“After charging the e-cigarette once, I can use it for a long time.” (M-9, 23, Single).</p>	1	5
	Portability	<p>“Because I consume e-cigarettes, I don’t have the trouble of carrying a lighter, like people who smoke traditional cigarettes.” (M-2, 20, Single).</p>	4	20
More economical		<p>“E-cigarettes are less expensive than traditional cigarettes.” (M-4, 20, Single).</p> <p>“I prefer e-cigarettes because they are economical. For example, while allocating a budget of around 600-700 TL from my monthly income for traditional cigarettes, I allocate a budget of around 300-400 TL from my monthly income for e-cigarettes.” (M-12, 21, Single).</p>	5	25

Table 3.
Perceptions of the Harms Associated with E-Cigarette Use Among Young Adults

Categories	Sub-Categories	Quotes	Number of Participants (f)	%
Persistence of nicotine cravings		<p>“I believe that while e-cigarettes may reduce traditional cigarette usage, they never reduce the desire to smoke traditional cigarettes because the nicotine content in e-cigarettes is very low.” (F-9, 23, Single).</p> <p>“I also consume traditional cigarettes because the nicotine level in e-cigarettes is low.” (M-11, 22, Single).</p>	3	15
Harmful to health	Health problems	<p>“There are claims that e-cigarettes cause water accumulation in the lungs. If I decide to quit using e-cigarettes one day, it would be due to this reason.” (M-14, 21, Single).</p> <p>“I am aware that my chronic asthma has worsened after using e-cigarettes. I don’t think e-cigarettes are innocent.” (M-16, 31, Married).</p> <p>“I read in an article that e-cigarettes, while providing flavor through aromas, cause the inhaled air to adhere more to the lungs. Menthol flavor is one example.” (F-8, 22, Single).</p>	8	40
	Addiction risk	<p>“I believe that e-cigarettes can lead to addiction at least as much as traditional cigarettes.” (F-12, 21, Single).</p> <p>“As someone who doesn’t use traditional cigarettes, I consume e-cigarettes frequently. I’m not surprised by this because I know that e-cigarettes, like traditional cigarettes, can lead to addiction.” (M-10, 20, Single).</p>	2	10
Mechanical problems	Quick depletion of battery/liquid	<p>“Due to frequent use, the battery of e-cigarettes can run out quickly, and the liquid tank can deteriorate, requiring replacement afterward.” (M-16, 31, Married).</p> <p>“E-cigarette aroma liquids sometimes leak. In such cases, both the liquid runs out quickly, and it leaves a bad feeling in our hands.” (M-11, 22, Single).</p>	4	20
	Risk of explosion	<p>“Since e-cigarettes operate with a battery, there is always a risk of explosion. I had seen this incident in a video shared on the internet, and it was really terrifying.” (M-3, 21, Single).</p> <p>“Sometimes, the use of e-cigarettes can be bothersome due to the risk of explosion.” (M-4, 20, Single).</p>	2	10
	Lack of portability	<p>“If you want to use e-cigarettes with different flavored aromas, you have to carry a bag with various liquids.” (M-5, 20, Single).</p>	1	5
Cost		<p>“I’m not currently considering quitting e-cigarettes, but if I ever do, it will definitely be because of financial reasons. The prices of e-cigarettes are unbelievably increasing day by day.” (F-6, 23, Single).</p> <p>“I am currently using both regular cigarettes and e-cigarettes. Using both at the same time can be financially challenging for me.” (M-18, 25, Single).</p>	7	35

Sub-Category 2: Addiction Risk

Ten percent of young adults with experience in e-cigarette use perceive it as harmful due to the high potential for addiction when using e-cigarettes. Some participants reported that the amount and frequency of e-cigarette use increase impulsivity in individuals day by day, indicating that e-cigarette use carries a risk of addiction (Table 3).

Category 3: Mechanical Problems

The participants perceive e-cigarette use as harmful due to mechanical problems. The mechanical problems include quick depletion of battery/liquid, risk of explosion, and lack of portability (Table 3).

Sub-Category 1: Quick Depletion of Battery/Liquid

About 20% of participants perceive e-cigarettes as detrimental because the battery or flavor-giving liquid quickly runs out. The young adults in the study expressed encountering mechanical problems such as leakage of flavor liquids or rapid depletion of the battery while using e-cigarettes (Table 3).

Sub-Category 2: Risk of Explosion

Ten percent of the participants perceive e-cigarettes as harmful due to the risk of explosion related to charging, the battery, or the device (Table 3). The participants expressed fear of the device exploding in their hands during e-cigarette use.

Sub-Category 3: Lack of Portability

The participants consider e-cigarettes harmful due to their lack of portability. Five percent of the participants stated that e-cigarettes need to be carried with their unique accessories, which can be inconvenient (Table 3).

Category 4: Cost

A total of 35% of the participants reported that e-cigarette use is more expensive and costly compared to traditional cigarettes, leading to the perception of harm. The participants stated that e-cigarette use can become economically burdensome, potentially turning into an expensive habit. They further stated that continuous spending may be necessary to enhance the product's effectiveness (Table 3).

Discussion

In this study aimed at determining the perceived benefits and risks of electronic cigarette (e-cigarette) use among young adults through qualitative research methods, the benefit perceptions of young adults with e-cigarette usage experience were assessed in 5 main categories, while the risk perceptions were evaluated in four main categories. The discussion part of the study focused on young adults' perceptions of the benefits and harms of e-cigarettes.

In this study, the participants believed that e-cigarette use could lead to a reduction or cessation of traditional cigarette smoking. They perceived e-cigarettes as enjoyable, less harmful compared to traditional cigarettes, easy to use, and more economical. The literature also emphasizes the growing prevalence of e-cigarette use among young adults for reducing or quitting traditional cigarette smoking or perceiving e-cigarettes as beneficial compared to traditional cigarettes (Atlam et al, 2020; Dayi et al, 2019; Sayılı et al, 2020). Similarly, a study conducted in the United Kingdom found that e-cigarette use was preferred to reduce traditional cigarette smoking (ASH, 2019). The participants evaluated e-cigarettes as more enjoyable than traditional cigarettes due to pleasant flavors/tastes, dense vapor, and a variety of aromas, aligning with existing literature (Huma, 2022; Landry et al, 2019). According to a systematic review, diverse flavor options attract e-cigarette users (Gades et al, 2022). Pokhrel et al (2015) reported that e-cigarettes are used as an enjoyable tool due to their unique features, such as producing large clouds of vapor. In this study, young adults perceived e-cigarettes as less harmful than traditional cigarettes due to the lower risk of bad odor and addiction. A study among teenagers reported that e-cigarettes were used based on perceptions of not containing tobacco, being less harmful than traditional cigarettes, and causing less addiction (Park et al, 2019). A quantitative study with university students in Türkiye reported that 21.6% of participants found e-cigarettes less harmful (Mutlu et al, 2023). Landry et al (2019) stated that the perceived addiction risk is lower among e-cigarette users. Similarly, a study conducted in India by Gupte et al (2022) found that teenagers determine a product's harmfulness based on the presence of tobacco, perceiving products without tobacco as beneficial. In this study, young adults considered e-cigarettes as less harmful and socially acceptable, depending on aroma and nicotine content. Participants perceived e-cigarettes as advantageous due to ease of carrying, long-term use, and the ability to use them even in enclosed spaces compared to traditional cigarettes. The

review of the literature indicates that being able to use e-cigarettes in places where traditional cigarette smoking is prohibited makes e-cigarettes more appealing (Bennett et al, 2023; Fadus et al, 2019; Simpson et al, 2021). Lastly, participants stated that they find e-cigarettes more economical than traditional cigarettes. Especially in the context of addiction prevention efforts in our country, it is believed that the increase in traditional cigarette prices and the availability of e-cigarettes at more affordable prices through illegal means contribute to this finding.

Young adults in this study perceive e-cigarettes as harmful due to the continuation of nicotine cravings, health risks, mechanical problems, and cost. They stated that despite using e-cigarettes, they cannot attain the nicotine levels present in traditional cigarettes, leading to persistent cravings. This situation may contribute to dual use among young adults (Atlam et al, 2020; Öznur Muz et al, 2022). Jackler and Ramamurthi (2019) also note that traditional cigarette users engage in e-cigarette use, increasing dependency. Additionally, the participants emphasized potential health problems and addiction risks associated with e-cigarette use. It can be said that the increasing efforts to clarify uncertainties related to e-cigarette use, the publication of informative content through the press and media, and the easy access of young adults to the results of these studies and relevant publications contribute to the increasing awareness of health risks and addiction potential associated with e-cigarette use. In this study, some participants mentioned encountering mechanical problems more frequently compared to traditional cigarettes due to e-cigarette issues such as quick depletion of the battery/liquid, explosion risk, and lack of portability. This observation aligns with the literature (Pokhrel et al, 2015; Simmons et al, 2016). Finally, some participants state that the cost of e-cigarettes is higher than that of traditional cigarettes. This finding regarding the cost of e-cigarettes may be attributed to curiosity about different flavor options, leading to experimentation, and the frequency of replacing e-cigarette devices. Similarly, Pokhrel et al (2015) reported in their study that participants considered e-cigarette use an expensive habit, expressing complaints about spending money on purchasing or replacing e-cigarette products and accessories, driven by the desire to try new flavors.

The study suggests that young adults' perceptions of the benefits and harms of e-cigarettes may have multiple dimensions. The current findings indicate that young adults often perceive e-cigarettes as a means to reduce or quit traditional smoking, as pleasurable, or as less harmful compared to traditional cigarettes. This may be related to a lack of information, misunderstandings, and peer influence. Therefore, based on the study results, it is recommended to plan addiction-related education and counseling programs specifically for individuals at risk of e-cigarette use. Additionally, it is suggested to implement informative and awareness-raising programs about e-cigarettes and their potential adverse health effects, starting from younger age groups and continuing into young adulthood. These programs should utilize press and media outlets to create public awareness, organize social events and seminars, and facilitate discussions on the perceived benefits and harms of e-cigarettes in small group settings.

Limitations and Suggestions for Future Research

This study has certain limitations. One limitation is that the research results may not be generalizable, as is typical in other

qualitative studies, and are limited to the young adults reached through snowball sampling. Additionally, in this study, young adults were defined as those between 18 and 35 years old, representing a broad age range. Therefore, it is considered that focusing on individuals aged 18 to 25 in future studies may lead to different results. In addition, children and adolescents aged 12 to 18 are also among the groups at risk for e-cigarette use. Therefore, it is crucial to conduct studies focusing on these age groups. Qualitative studies targeting different age groups are expected to be effective in planning targeted interventions for at-risk populations. It was observed that the majority of young adults interviewed in the study used both traditional cigarettes and e-cigarettes. Hence, it is recommended that future studies, particularly those addressing the risk of e-cigarette use, should be conducted with young adults who do not smoke traditional cigarettes. Furthermore, conducting focus group interviews could be more advantageous for peer interaction, resource and time efficiency, and obtaining comprehensive data in future research. Despite these limitations, the results provide a context for understanding the decision-making process related to e-cigarette use and guiding future research. Conducting comprehensive studies in different populations is also recommended. Descriptive and exploratory studies in terms of e-cigarette use and experimental designs, especially in at-risk groups such as young adults, are suggested to contribute to the national literature by identifying groups at risk for e-cigarette use. Furthermore, it is recommended to conduct large-scale, population-based studies to assess individuals' motivations and expectations concerning e-cigarette use. Qualitative research should also be undertaken to identify the cultural and traditional attitudes that shape public perceptions of the benefits and harms of tobacco use, including e-cigarettes.

Data Availability Statement: The data that support the findings of this study are available on request from the corresponding author.

Ethics Committee Approval: This study was approved by the Ethics Committee of Non-Drug and Non-Medical Device Research of KTO Karatay University (Approval No: ; 030 Date: 2023).

Informed Consent: Informed consent was obtained from the participants who agreed to take part in the study.

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