



## Knowledge, Attitude and Practice (KAP) Study on Vapers in Pakistan



## Acronyms

Chronic Obstructive Pulmonary Disease  
Do It Yourself  
Electronic Nicotine Delivery Systems  
Federal Excise Duty  
Framework Convention on Tobacco Control  
Gross Domestic Product  
Harm Reduction Products  
I Quit Ordinary Smoking  
Pakistan Tobacco Board  
Safer Nicotine Delivery Systems  
Second-Hand Smoking  
World Health Organization

COPD  
DIY  
ENDS  
FED  
FCTC  
GDP  
HRPs  
IQOS  
PTB  
SNDS  
SHS  
WHO

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## Executive Summary

This study explores the knowledge, attitude, and practices of users of harm reduction products, commonly known as vapers, in 11 city districts of Pakistan. As the first nationwide KAP study of vapers, this research has used self-constructed sampling frame from the existing selling points of vaping in each selected district – Islamabad, Rawalpindi, Sialkot, Lahore, Faisalabad, Multan, Hyderabad, Karachi, Peshawar, Abbottabad, and Quetta. Using the Quick Count Technique, a listing of vaping outlets across 11 districts was conducted. Based on the listing, a sample of 847 vapers was finalized.

Predominantly young people have taken up vaping in Pakistan. Around 86.9% of the respondents are between 18-30 years of age. Most of these vapers are based in Karachi, Hyderabad, Lahore, and Islamabad. Similarly, vapers are educated – most have higher secondary education (35.2%), followed by 33.1% graduates, and 19% post-graduation education. Vapers (40%) are employed while 16.3% are self-employed. However, 39% termed themselves as students. Most of the vapers seem to be from middle and higher middle class. More than one-third of the vapers (38%) listed their household income more than Rs80000. Vapers are living in well-off localities. Almost half of the vapers (47%) termed their residential locality as upper middle class, followed by 36% who said they live in a middle class residential area and 13.6% in upscale localities. Less than 3% termed their living area as poor.

In Pakistan, it seems young people are directly taking up vaping. A little more than one-third of the vapers (35%) said they have never smoked a cigarette in their lives and instead started vaping directly. Respondents who have taken up vaping directly are 18-30 years old. However, 40% of the respondents who switched to vaping from smoking had their first cigarette when they were 15-20 years old.

Currently, friends are the first source of introduction to vaping for 64.5% respondents while one-fourth (25.2%) came to know about vaping through internet and social media. There seems to be a co-relation between education and introduction to vaping – those with lesser education go directly to a vaping outlet while friends are the first source for educated vapers.

Overall vapers have noticed improvement in their health after switching to vaping from smoking. Vapers (42.8%) described their health as good after switching to vaping. Respondents in Abbottabad (85.7%), Faisalabad (55.6%), Lahore (54.8%), Islamabad (53.7%), Multan (46.2%), Hyderabad (35.7%), and Karachi (27.9%) termed their health as good after switching to vaping.

Vapers generally are unaware about the health effects of vaping. They may be able to register improvement in personal health, but their knowledge about the effects of vaping on health is vague. While 37.2% vapers think vaping is associated with diseases such as lung cancer, COPD, asthma and

heart disease, 21.3% think vaping is somewhat associated with these diseases. However, 37.8% respondents do not associate vaping with disease or illness. Additionally, 62.4% think that vaping is not safe during pregnancy.

Vapers (76%) do not agree that vaping is a gateway to smoking for youth and 80.5% do not see it as a ploy of the tobacco industry. Similarly, 73.6% vapers agreed vaping is less harmful for health and 74.7% said it can help in quitting smoking. Vapers, however, seem to be significantly divided on the question of long-term health effects of vaping – 46% are apprehensive while 54% are not. This apprehension seems to be related to respondents associating vaping with diseases such as lung cancer, COPD, asthma, and heart disease.

Overall vapers say vaping is less addictive than smoking. A little more than half of the respondents (51.5%) think the addiction of vaping is much less than smoking, followed by 23.5% who think vaping is slightly less addictive. However, 14.5% found both vaping and smoking equally addictive while for 9.1% vaping is slightly more addictive.

Young people in Pakistan are taking up vaping because it makes them look cool. Nearly half of the respondents (48.7%) agreed that young people are vaping as it makes them socially more acceptable. Most of those who agree with this perception are young (18-30 years) and educated (higher secondary and above).

Vapers (53%) agreed there is no risk of secondhand smoke associated with vaping while 59% expressed a high acceptance for vaping at places where cigarettes are banned but 17% did not agree. This acceptance has been found in respondents with higher education living in upscale localities. Though vapers want more public space for vaping, they seem to be reluctant to give permission for vaping in their personal space. Only 30.5% respondents said they would allow others to vape in their home or car. As vaping is being done in regulatory vacuum in Pakistan, 59% of the respondents want regulation of vaping like other tobacco products.

Respondents are divided on the reasons for dual use of vaping and smoking. This difference has been found across the selected districts, age, education, and socio economic level. Most of them (30%) did not know why people vape and smoke simultaneously. However, for 23%, the main reason is indecisiveness, followed by 21% who say that vaping fails to satisfy their nicotine level. Similarly, 22% say the dual use gives them more options of vaping or smoking.



A little more than half of the respondents (54%) vape daily while 46% vape less than daily, and 33.5% have started vaping in the last six months. Most of these vapers are young and belong to Lahore, Multan, Faisalabad, and Abbottabad. However, 27% and 22% of the respondents have been vaping for the last one and two years respectively. Only 10% and 8% respondents have been vaping for three or more than three years respectively.

Nearly half of the respondents (48.7%) say they have started vaping because it makes them look cool. Only 21% started vaping with the intention of harm reduction while 19% switched to it to quit smoking. Only 12% tried vaping for the sake of experiencing it. Younger vapers (18-30 years) are taking up vaping because of its cool factor while those over 35 are more health conscious and take up vaping to quit smoking.

The decision to initiate or switch to vaping is an individual decision in Pakistan. Around 91% of respondents did not consult a doctor when they decided to vape.

For vaping, respondents predominantly use e-cigarettes in Pakistan. Almost all brands of e-cigarettes are imported from China. However, vapers know about and use other options such as SNUS, IQOS, and Juul. Less than 4% each have used SNUS and IQOS, which are products of British American Tobacco and Philip Morris International, while 15.7% have used Juul. Only 5% said they use nicotine gum and patches. Most of the respondents who have used nicotine gum and patches are well off, educated, and between 41-50 years of age. The effect of negative news regarding vaping seems to be negligible in Pakistan. Most of the vapers (59%) tend to ignore negative news. However, one-fifth read them carefully. Only 8% say they think about their use of vaping while 6% reduce their vaping level. For less than 5%, such news are fake.

## 1 Background

Several tobacco products such as cigarettes, waterpipe, shisha, pan, gutka, and niswar are consumed in Pakistan (Khan, 2012). Today Pakistan has around 23.9 million tobacco users<sup>1</sup>. Other estimates put the number at more than 24 million.<sup>2</sup> Pakistan became signatory to the World Health Organization's (WHO) Framework Convention on Tobacco Control (FCTC) in November 2004. Pakistan Tobacco Company, a subsidiary of British Tobacco Company, and Philip Morris Pakistan dominate 98% of the cigarette market in Pakistan, though "there are a number of other smaller companies..." (Burki et al. 2013).

For WHO, Pakistan is "one of the 15 countries worldwide with a heavy burden of tobacco-related ill health" as "31.8% of men, 5.8% of women, and 19.1% of Pakistan's adult population currently use tobacco in one form or another. Of these, 17.9% of men, 1% of women and 9.6% of the adult population overall are daily cigarette smokers, while 4.4% men, 1% women and 2.7% of the adult population are daily water pipe smokers."<sup>3</sup> In Pakistan every year 160,100 people are killed by tobacco-caused disease as more than 125000 (10-14 years old) and 14,122,000 adults (15 + years old) use tobacco daily (Drope et al., 2018).

Pakistan, after India, is one of the top countries producing tobacco in South Asia. However, tobacco farming's share in overall irrigated land of Pakistan is 0.25%, with 75,000 growers in the country, most of them in Khyber Pakhtunkhwa province.<sup>4</sup> Pakistan was ranked ninth in 2016 among top ten countries producing raw tobacco. The overall tobacco produce is 0.42% of total farming produce in Pakistan (SPDC, 2018). Similarly, employment in the tobacco industry is 0.03% (8200) of the employment in agriculture sector.<sup>5</sup> Almost all 45,000 tobacco producers in Khyber Pakhtunkhwa are "producing 95% of Flue Cured Virginia (main ingredient of cigarettes) on an area of 30,000 hectares in the districts of Swabi, Mardan, Charsadda, Buner, and Mansehra".<sup>6</sup>

However, Pakistan Tobacco Board (PTB) says 350000 workers are directly or indirectly related to the tobacco industry, which annually generates Rs300 billion and livelihood for 1.2 million people.<sup>7</sup>

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<sup>1</sup> Fact Sheet, Pakistan [available at <http://www.tcc.gov.pk/fact.php>]

<sup>2</sup> Euromonitor International. 2018. Smokesless Tobacco and Vapour Products in Pakistan. Pp. 11

<sup>3</sup> WHO. Tobacco Control in Pakistan. [available at <https://www.who.int/tobacco/about/partners/bloomberg/pak/en/>]

<sup>4</sup> Pakistan Tobacco Board, Economics Significance of Tobacco [available at <http://www.ptb.gov.pk/?q=node/65>]

<sup>5</sup> Ibid

<sup>6</sup> Pakistan Tobacco Board, Economics Significance of Tobacco [available at <http://www.ptb.gov.pk/?q=node/65>]

<sup>7</sup> Ibid

Smoking cessation seems to be a weak link in the fight against tobacco epidemic in Pakistan. The success rate of quitting smoking is less than 3% in Pakistan.<sup>8</sup> According to WHO cessation index, Pakistan offers nicotine replacement therapy and/or some cessation services with at least one cost covered.<sup>9</sup> However, smoking cessation services in Pakistan are conspicuous by their absence. The smoking cessation clinic established by the Tobacco Control Cell in one of the leading public hospitals in Islamabad turned out to be a “ghost” clinic.<sup>10</sup> As the information about smoking cessation services is not widely disseminated, hardly anybody knows about them. Even the young educated well-to-do smokers who want to quit do not know about such services (Shaheen, Oyeboode, & Masud, 2018). Because of this lack of knowledge about the smoking cessation services, almost half of the quit attempts are unaided in Pakistan.<sup>11</sup> An inadequate healthcare system, lack of smoking cessation policy, a strong influence of tobacco industry, and lack of awareness among people about serious health hazards of smoking are the main barriers to smoking cessation in Pakistan (Abdullah & Husten, 2004). The primary tobacco law in Pakistan – the Prohibition of Smoking in Enclosed Places and Protection of Non-smokers Health Ordinance, 2002 – does not talk about smoking cessation.

A number of taxes are imposed on cigarettes and tobacco products in Pakistan. These include a provincial tobacco development cess, Federal Excise Duty (FED) on cigarettes, along with General Sales Tax, and customs and regulatory duties. The main source of revenue is FED, accounting for almost 80% of tax collected from the tobacco industry. The FED on cigarettes has been modified from time to time.

### 1.1 Safer Nicotine Delivery Systems

The use of Electronic Nicotine Delivery Systems (ENDS) or Safer Nicotine Delivery Systems (SNDS) is a nascent phenomenon in Pakistan and seems to be hiding in plain sight. The people and business operators of Harm Reduction Products (HRPs) are keeping a low key to avoid regulations and/or policies that could affect their business concerns. There are no clear or defined regulations for the use of HRPs including imports, manufacturing or product contents. However, e-cigarettes and other HRPs are legally imported as consumer goods, with tax duties imposed on them.

The stakeholders working on tobacco control in Pakistan, including the government, health professionals, and civil society, are following the position of WHO, which like other global stakeholders, are taking the precautionary approach. One of the reasons propagated by WHO and other like-minded

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<sup>8</sup> Ibid

<sup>9</sup> <https://tobaccoatlas.org/topic/quitting/>

<sup>10</sup> Pakistan Today, PIMS running ghost Tobacco Cessation Clinic, November 1, 2014, [available at <https://www.pakistantoday.com.pk/2014/11/01/pims-running-ghost-tobacco-cessation-clinic/>]

<sup>11</sup> GATS 2014

organizations is the perception that the vaping is another ploy of the big tobacco to sustain the conventional smoking. This approach is contradictory to the fact that despite the national tobacco control laws adopted in 2003, there are still 24 million tobacco users in Pakistan.

The number of vaping outlets in Pakistan is steadily increasing. Today the country has more than 100 outlets, almost all of them in city districts such as Karachi, Lahore, Islamabad, Rawalpindi, Peshawar, etc.

Currently, HRP's are imported, sold and used in a regulatory vacuum in Pakistan. "Vapour products remained unregulated in Pakistan in 2017, with no specific laws in place governing their distribution, sale or usage."<sup>12</sup>

The prices of vaping products are higher than those of conventional cigarettes. The most expensive duty paid cigarette packet in Pakistan costs a little more than a dollar, while the price of vaping kit starts from \$24 and goes up to \$162. This is mainly because vaping products are imported. The kits are imported from China and the flavors from the US, UK, and Malaysia.

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<sup>12</sup> Smokeless Tobacco and Vapour Products in Pakistan, Euromonitor, August 2018

## 2 Materials and Methods

### 2.1 Study Area

This study explores the knowledge, attitude, and practices of HRP users in Pakistan. With a population of 207.8 million, Pakistan is globally the 6th most populous country. Nearly 63% and 37% of Pakistan's population live in rural and urban areas, respectively. The main sources of household income are based on agriculture and allied activities. According to the Pakistan Bureau of Statistics, during 2017-18 GDP per capita was estimated \$1,641 based on the provisional results of the population census conducted in 2017. According to per capita income, Pakistan stands 147th in the world for 2018<sup>13</sup>. This study has been carried out in 11 city districts of Pakistan's four provinces – Punjab, Sindh, Khyber Pakhtunkhwa, Balochistan and the federal capital, Islamabad. As Punjab is the largest province in Pakistan in terms of population, five cities (Rawalpindi, Lahore, Sialkot, Faisalabad, and Multan) from the province have been selected, followed by two each from Sindh (Karachi and Hyderabad) and Khyber Pakhtunkhwa (Peshawar and Abbottabad), and one (Quetta) from Balochistan.

### 2.2 Data

This study has used primary data collected from a self-administrative structural questionnaire developed in English. Additionally, it was translated into the local language (Urdu) for the understanding of enumerators. The respondents were briefed about the importance of research before taking a verbal consent for the interview. The questionnaire consisted of study introduction and importance, respondent's demographic and socioeconomic characteristics, knowledge, consumption, perception about HRPs, and tobacco use, etc. This study has used the Computer-Assisted Personal Interviewing approach for the collection of primary data.

### 2.3 Sampling Methodology

This study has chosen cross-sectional multi-stage survey design to gather one point in time data about the target population<sup>14</sup>. The survey design gives descriptive prevalence and attributes of problems in particular target populations. The HRPs/vaping selling points in urban area localities in each selected district were the sampling universe.

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<sup>13</sup> <https://www.ceicdata.com/en/indicator/pakistan/gdp-per-capita>

## Sampling Frame

This study has used self-constructed sampling frame from existing selling points of HRP/vaping in each study district.

## Listing activity

ARI conducted listing of e-cigarette outlets across 11 districts of all target populations by using the Quick Count Technique – a useful way to list the target population under time and financial constraints. We found 96 vaping outlets in the 11 selected districts. It is important to highlight that new outlets are being opened in cities like Karachi, Lahore, Multan, and Islamabad.

## Sample Size and Sample Allocation

Keeping in view the main objectives of the survey, a sample of 847 HRP users was considered appropriate to yield reliable estimates of population parameters within acceptable reliability limits. For the estimation of the sample size, this survey study used 95% level of confidence, 5% margin of error and 2% default value of design effect. The following formula was used to estimate the required sample size:

$$n = \frac{[4(r)(1-r)(deff)]}{[c^2*(RR)]}$$

Where

- n is the required sample size, expressed as number of HRP users
- 4 is a factor to achieve the 95% level of confidence
- r is the predicted or anticipated value of the indicator, expressed in the form of a proportion
- deff is the design effect for the indicator, estimated from a previous survey or using a default value of 2
- c is margin of error
- RR is the predicted response rate

Finally, the sample size at 95% confidence level and a 5% margin of error, along with the predicted or anticipated value of the indicator, has been expressed in the form of a proportion. This offers adequate sample size to assess feedback from the target population.

**Table 1: Number of Outlets and Selected Sample**

<b>Province</b>	<b>District</b>	<b>Number of Vaping Outlets</b>	<b>Covered Sample of Vapers</b>	<b>Non-Response</b>	<b>Total Sample</b>
<b>ICT</b>	Islamabad	11	82	1	83
<b>Punjab</b>	Rawalpindi	9	77	1	78
	Sialkot	5	19	0	19
	Lahore	30	301	0	301
	Faisalabad	4	9	5	14
	Multan	6	13	7	20
<b>Sindh</b>	Hyderabad	7	17	5	22
	Karachi	17	272	2	274
<b>Khyber Pakhtunkhwa</b>	Peshawar	2	6	4	10
	Abbottabad	3	14	0	14
<b>Balochistan</b>	Quetta	2	12	0	12
<b>Total</b>	11	96	822	25	847

### 3 Results and Discussion

#### 3.1 Demographic Characteristics

##### 3.1.1 HRP Users' Age

Predominantly young people have taken up vaping in Pakistan. Approximately 86.9% of the respondents are 18-30 years old. Most of these vapers are located in Karachi, Hyderabad, Lahore, and Islamabad (See Annexure A). This may not come as a surprise. Currently, the country has the highest percentage of young population in its 70-years history— 64% of Pakistan's population is below the age of 30.<sup>15</sup>

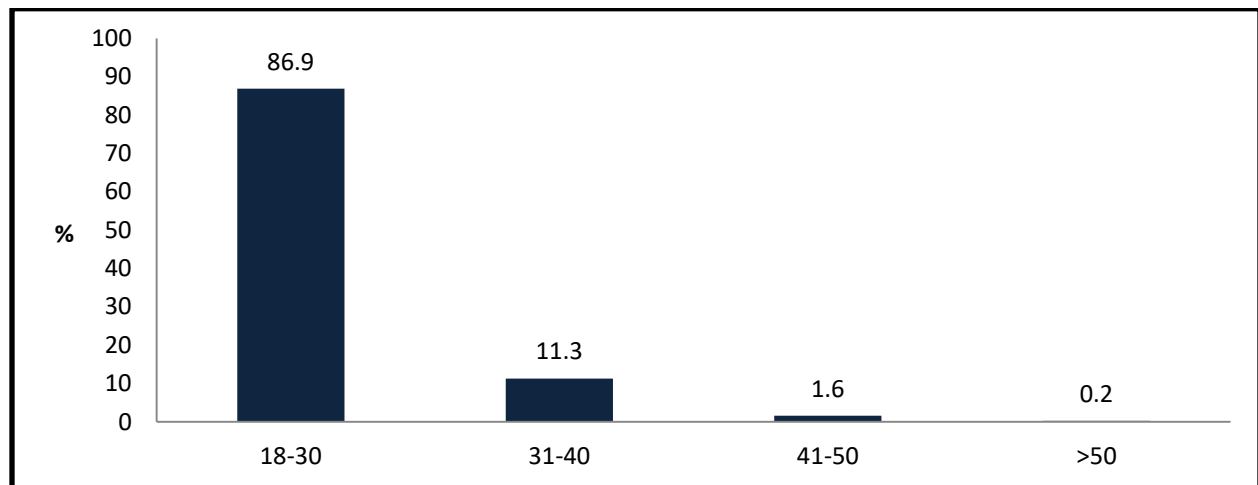


Figure 1: Age of Respondents

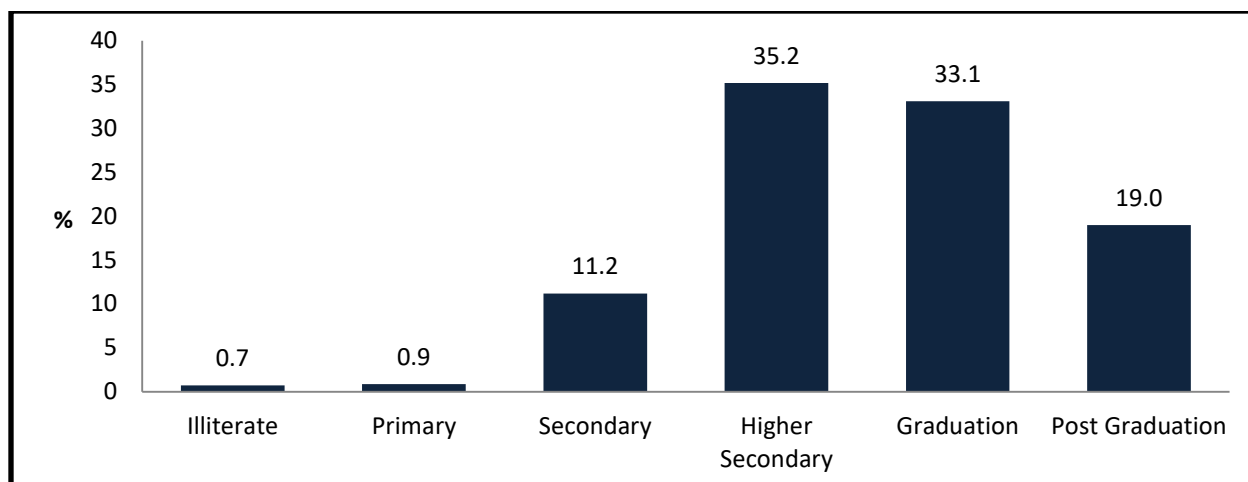
##### 3.1.2 Education

Since this study has been conducted in city districts across Pakistan, most vapers are educated. Most of them have higher secondary education (35.2%), followed by 33.1% graduates and 19% postgraduates. Vapers are more educated in urbanized cities than in semi-urbanized cities. In Multan and Sialkot, most of the vapers had up to secondary education. However, the majority of the vapers in Lahore, Karachi, Islamabad, and Rawalpindi were graduates and postgraduates (See Annexure A).

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**1.1** <sup>15</sup> Dawn, Pakistan currently has largest percentage of young people in its history: report, May 03, 2018, <https://www.dawn.com/news/1405197>

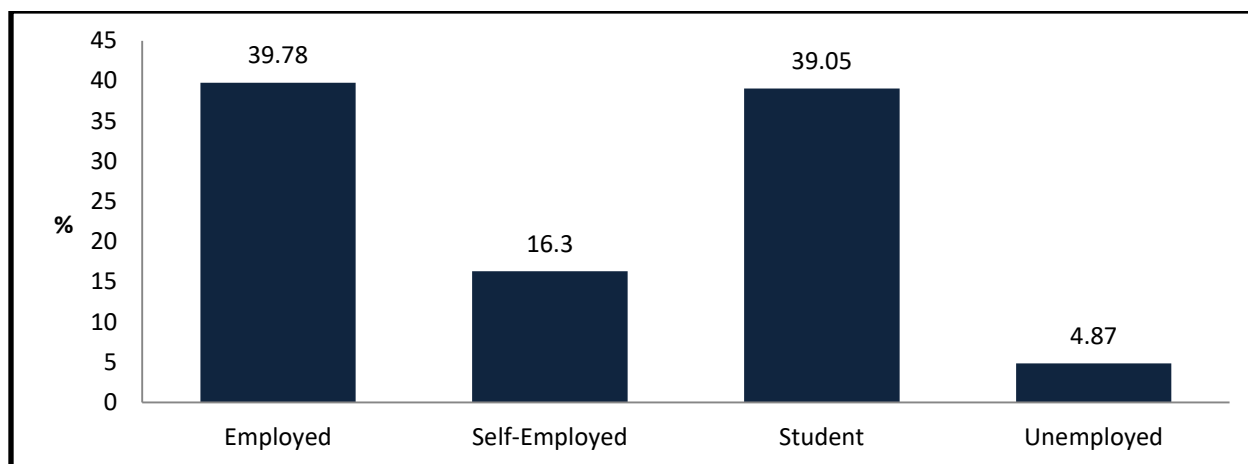




**Figure 2: Education**

### 3.1.3 Employment Status

Employment statistics indicate 40% of the vapers (40%) are employed while 16.3% are self-employed. However, 39% of the vapers declared themselves as students. The majority of the students found vaping were in developed urban areas such as Lahore, Rawalpindi, Karachi, Islamabad, and Hyderabad compared to less developed urban areas such as Multan, Sialkot, Quetta, and Abbottabad. Employment status is significantly associated with vaping (See Annexure A). These findings underline findings of the recent studies in Pakistan ([Sarfraz et al., 2020](#) & [Hafiz, Rahman, & Jantan, 2019](#)).



**Figure 3: Employment Status**

### 3.1.4 Household Income Status

Vaping is expensive in Pakistan, with prices of devices ranging between Rs5000 to Rs20000 (US\$30-125 US dollars). Most of the vapers seem to be from well-off middle and higher middle classes. More than one-third (38%) listed their household income more than Rs80000, which is similar to the recent study conducted by [Sarfraz et al \(2020\)](#). Only 10% of the vapers said their household income was between

Rs21000-Rs40000. Young vapers from middle income and rich families in Pakistan are employed or self-employed (See Annexure A).

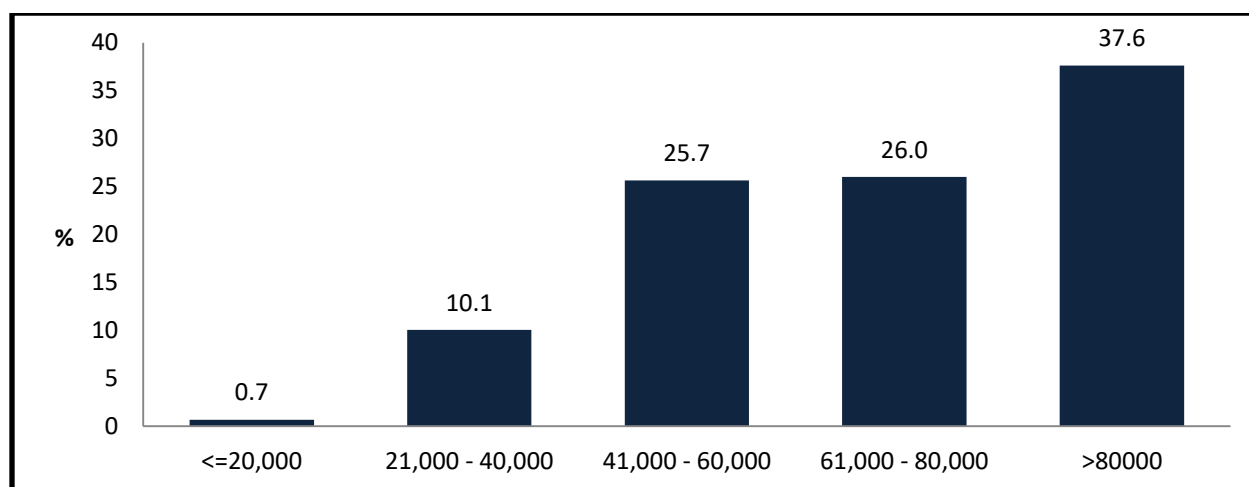


Figure 4: Household Income

### 3.1.5 Residential Area Status

Most of the vapers are living in well-off localities, further confirming that vaping is confined largely to middle class, upper middle class, and the rich. Almost half of the vapers (47%) termed their residential locality as upper middle class, followed by 36% who said they live in a middle class residential area and 13.6% vapers who are from upscale localities. Less than 3% termed their living area as poor. Additionally, residential area status is significantly associated with vaper knowledge, attitude, and practice (See Annexure A).

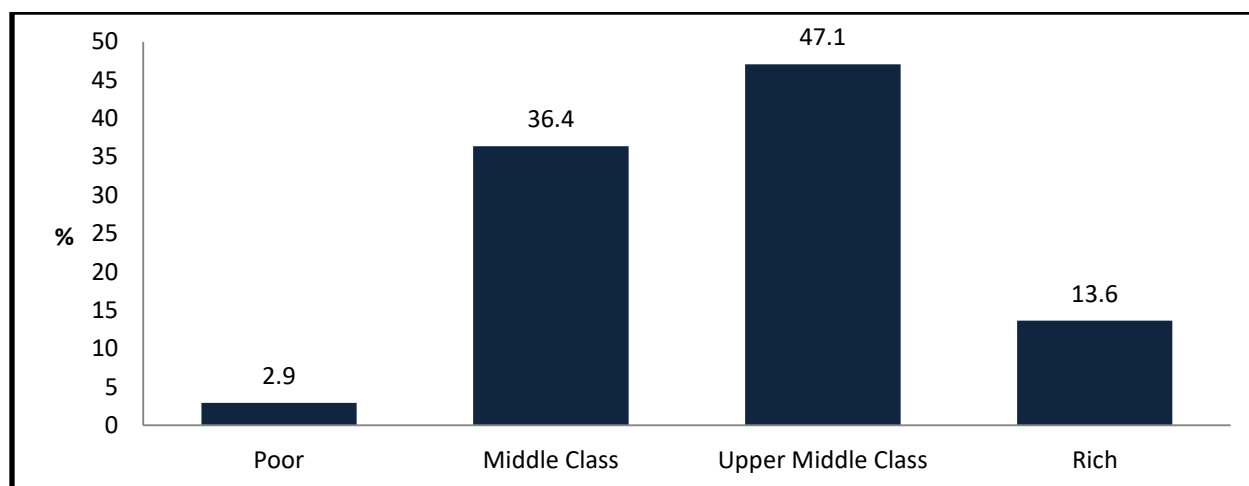


Figure 5: Residential Area Status

### 3.1.6 Age When First Smoked in Years

Respondents (40%), who switched to vaping from smoking, had their first cigarette when they were 15-20 years old. However, 6% started smoking cigarettes between 10-15 years of age. Most of the daily smokers start smoking before the age of 17 in Pakistan (GATS, 2014).

In Pakistan, it seems young people are directly taking up vaping. A little more than one-third of vapers (35%) said they have never smoked a cigarette in their lives. This prevalence rate for vaping is similar to several national and international studies conducted by Wills et al (2017); Glantz, Bareham, Francisco, & Kingdom (2018); Goniewicz et al (2014); Khan (2015) & Hajek, Etter, Benowitz, Eissenberg, & McRobbie (2015). In other words, they have started vaping directly. Respondents directly started vaping are in Hyderabad (70.6%), Faisalabad (55.6%), Karachi (51.8%), and Peshawar (50%) (See Annexure A).

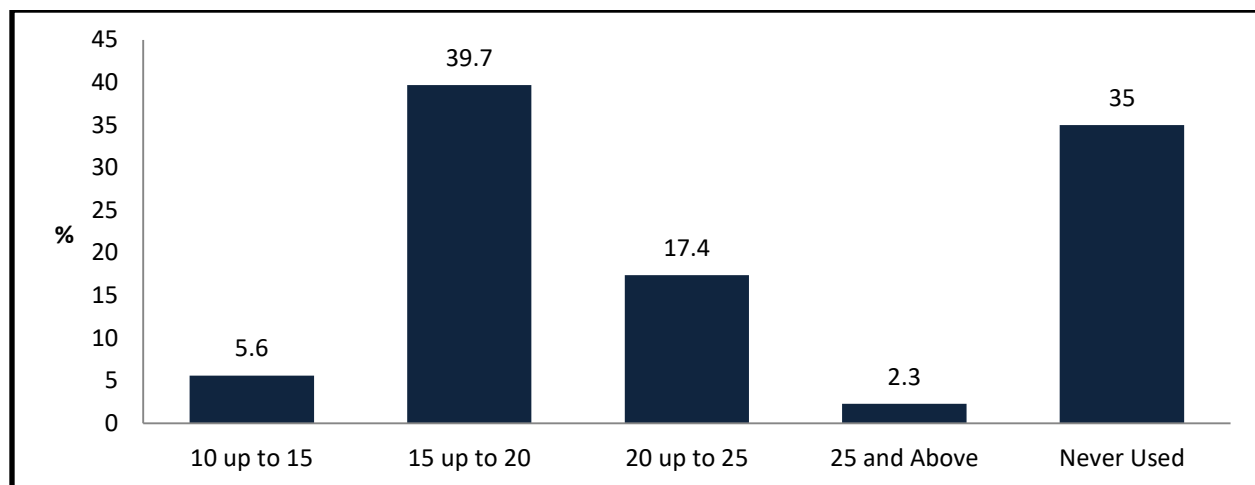


Figure 6: Respondents' Age at the Start of Combustible Smoking

### 3.1.7 Age When Started E-cigarettes, Current Education, and Residential Area Status

Respondents who have taken up vaping directly are predominantly 18-30 years of age. The prevalence rate for e-cigarette users' age is similar to recent studies in Pakistan (Sarfraz et al., 2020 & Hafiz, Rahman, & Jantan, 2019). They are educated and belong to well-off families. Most of them live in upper middle class and rich localities in the cities.

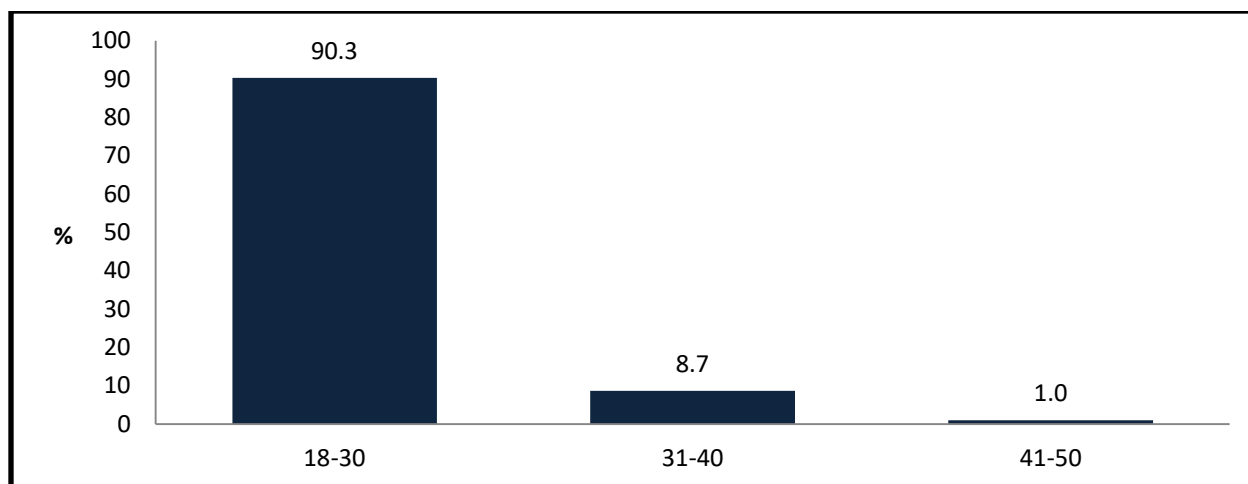


Figure 7: Age of Respondents who Start Vaping

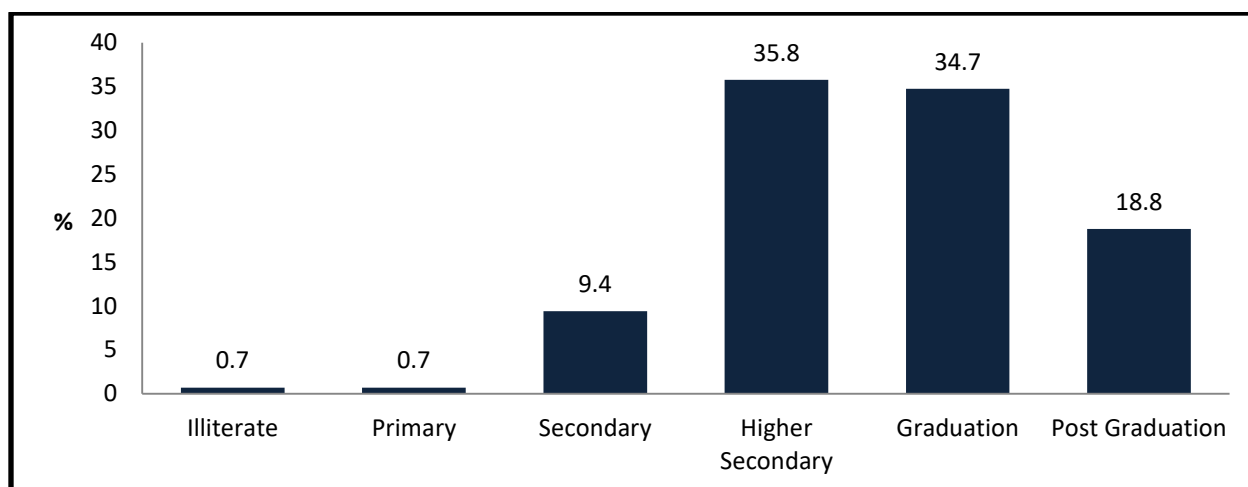


Figure 8: Education of Respondents who Start Vaping

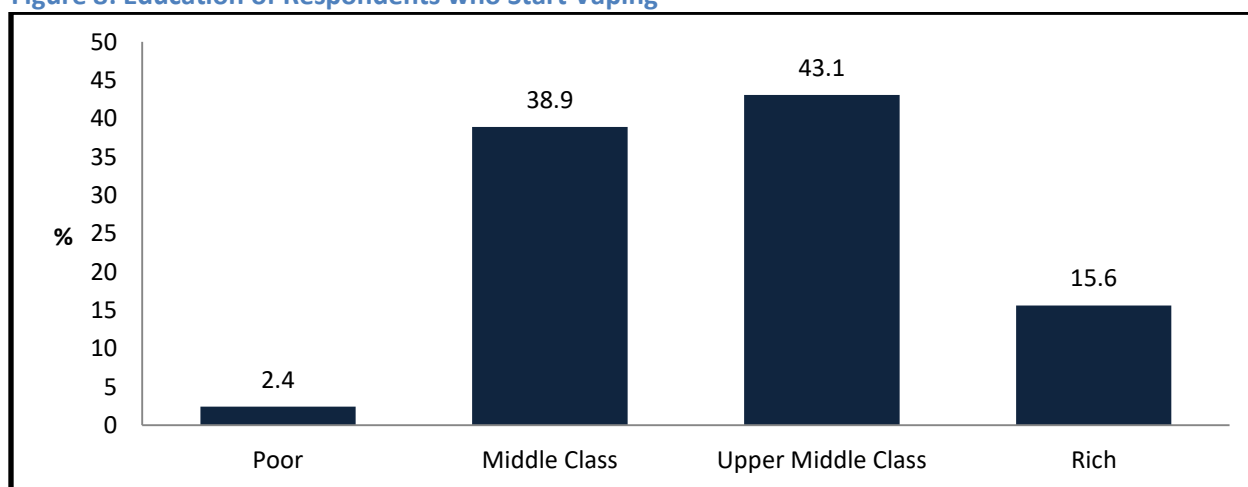


Figure 9: Residential Area Status of Respondents who Start Vaping

## 3.2 Knowledge about Vaping

### 3.2.1 Introduction to Vaping

For almost two-thirds (64.5%) of vapers, friends were their first source of introduction to vaping. While one-fourth (25.2%) came to know about vaping through internet and social media. These findings are consistent with Iqbal, Khan, Anwar, Irfan, & Irfan (2018); Shaikh, Ansari, Ahmad, Shaikh, & Khalid (2017) and Puteh, Manap, Hassan, Ahmad, & Idris (2018). For less than 10%, an outlet was their first contact with vaping in Pakistan. Regional results show that for vapers in Islamabad (73.2%), Lahore (68.4%), Karachi (62.1%), and Rawalpindi (46.8%), friends are the first source of introduction to vaping. There is a co-relation between education and introduction to vaping – those with lower education go directly to the vaping outlet, while friends are first source for the educated vapers (See Annexure B).

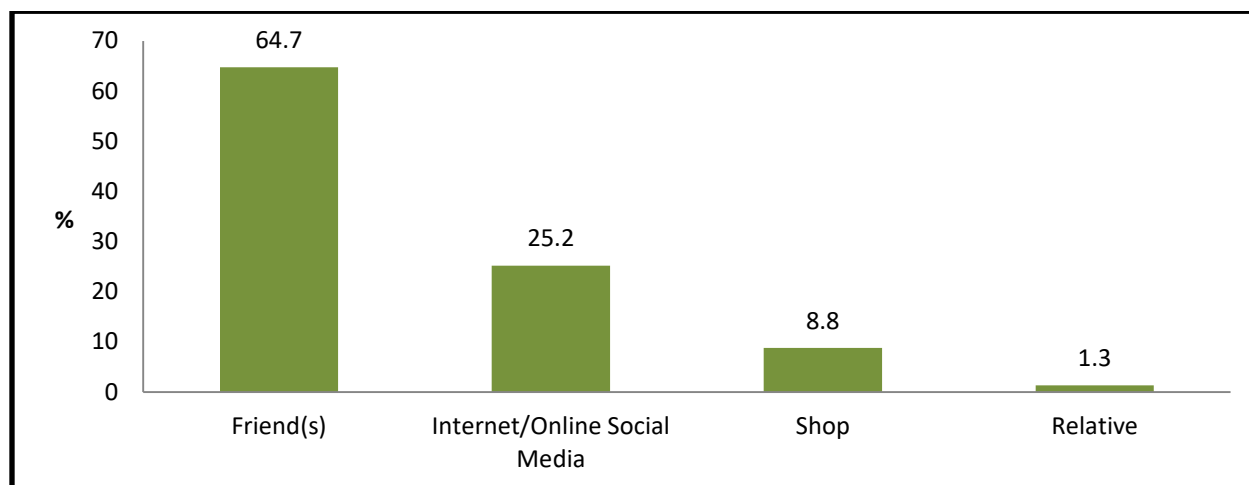
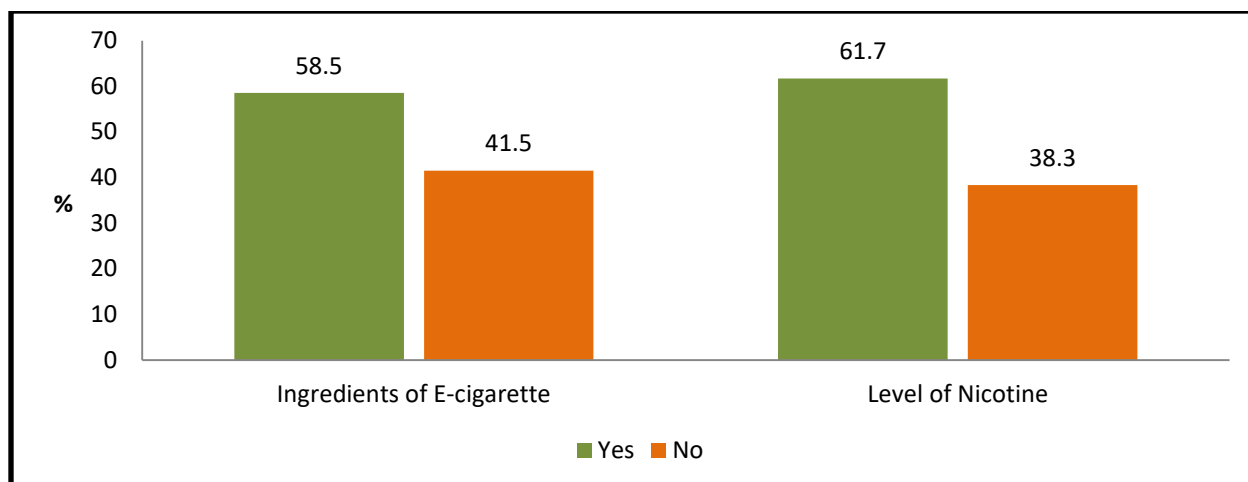


Figure 10: Source of Vaping

### 3.2.2 Ingredients and Levels of Nicotine

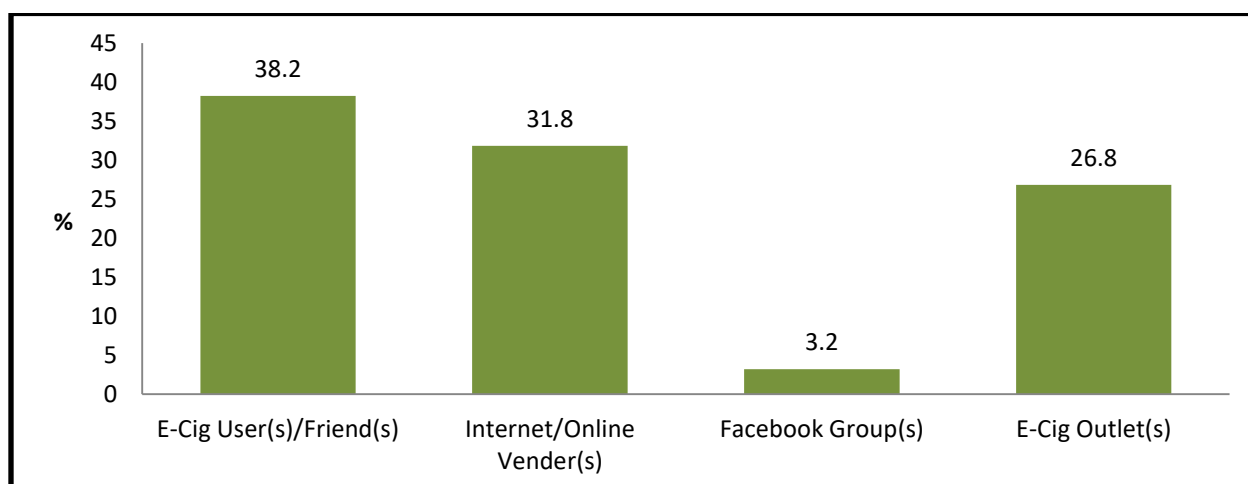
Only 58.1% of the vapers know about vaping ingredients while a slightly higher 62% know about the level of nicotine in an e-cigarette. Knowledge about the ingredients and nicotine level was high among vapers in Rawalpindi (92.2%), Islamabad (91.5%), Hyderabad (88.2%), and Karachi (76.5%). As vaping is being done in Pakistan in regulatory vacuum, the knowledge about ingredients and nicotine level depends on personal interest and choice. Respondents belonging to poor and less educated areas have less knowledge about vaping ingredients and nicotine level compared to those from rich and educated areas (See Annexure B).



**Figure 11: Knowledge about Ingredients and Levels of Nicotine in an E-cigarette**

### 3.2.3 Source of Information about Latest Vaping Models

For 38% vapers, friends are the main source of information about latest vaping devices, followed by internet or the websites of vendors. A little more than one-fourth (27%) vapers visit outlets to get information about latest vaping devices. In addition, regional level results show that vapers in Rawalpindi, Multan, and Abbottabad depend on vaping outlets for information about latest models while in the rest of the cities, friends and internet are the first source (See Annexure B). Though there is no ban on the advertisement of vaping in Pakistan, outlets do not use any forum other than their websites to advertise e-cigarettes and juices. Most of the vaping outlets' websites in Pakistan ask about the age of the user before proceeding. Almost all the major vaping outlets have websites as they offer home delivery. In the field, it was observed that vapers were unable to recall exact names of brands. However, they mostly mentioned the outlets' names when asked about the brand they vape.



**Figure 12: Main Source of Information about Latest Models of Vaping**

### 3.2.4 Health Before and After Vaping

Overall vapers have noticed improvement in their health after they switched to vaping from smoking. Vapers (42.8%) described their health as good after switching to vaping. Respondents in Abbottabad (85.7%), Faisalabad (55.6%), Lahore (54.8%), Islamabad (53.7%), Multan (46.2%), Hyderabad (35.7%), and Karachi (27.9%) termed their health as good after switching to vaping (See Annexure B). However, 3% respondents termed their health as poor after they started vaping. Similarly, 24.2% vapers also termed improvement in health as fair after vaping. It is important to highlight that this improvement in health is based on the self-reported perception of respondents. Perception about health before and after vaping is not co-related with education. This indicates that in Pakistan, no clinical experimental study has been done to gauge the effect of vaping on health of users.

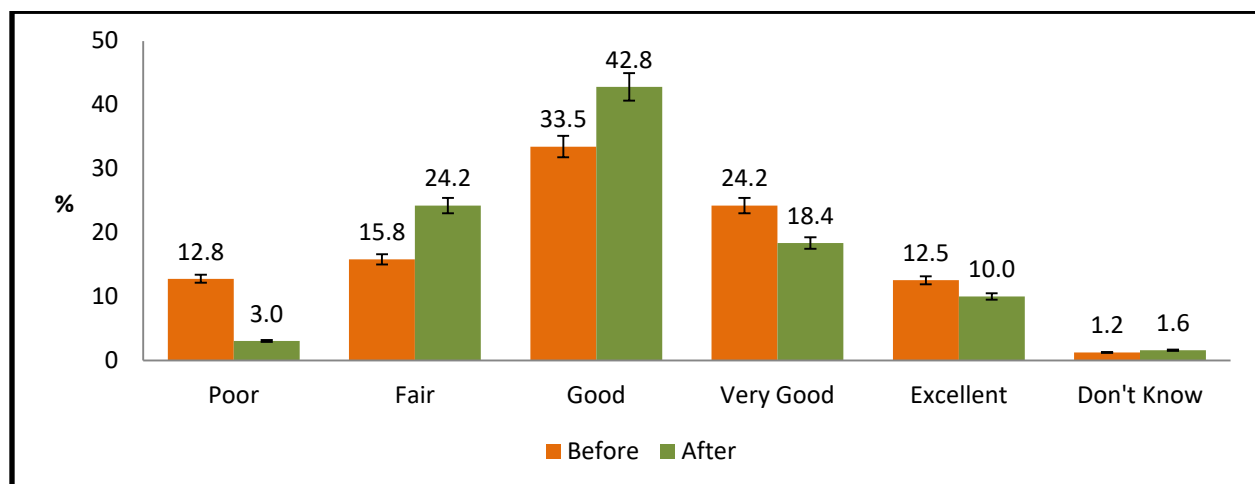
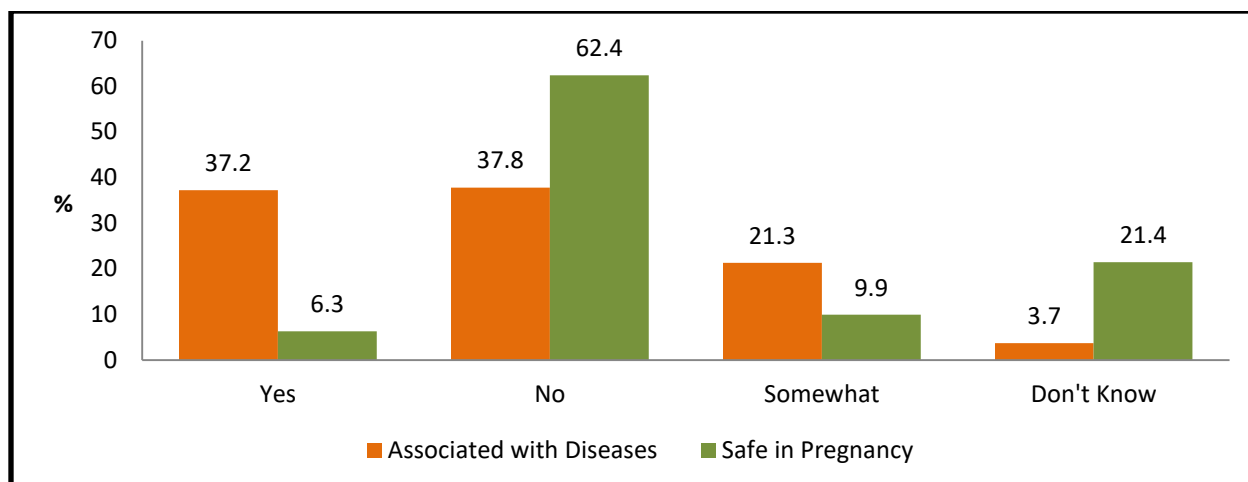


Figure 13: Health Before and After Vaping

### 3.2.5 Vaping Health Knowledge

Vapers generally are unaware about the health effects of vaping. They may be able to register improvement in their personal health, but their knowledge about the effects of vaping on health is vague. Vapers (37.2%) think vaping is associated with diseases such as lung cancer, COPD, asthma and heart disease while 21.3% think it is somewhat associated with these diseases. Regional analysis also shows the same pattern (See Annexure B).

However, 37.8% respondents do not associate vaping with disease or illness. Additionally, 62.4% think vaping is not safe during pregnancy. It is evident vapers in Pakistan are uninformed or confused about the effects of vaping on health. There is a need for providing evidence-based knowledge and awareness on SNDS in Pakistan.



**Figure 14: Vaping and Health Knowledge**

### 3.2.6 Knowledge about Vaping Perceptions

One of the perceptions about vaping is that it is a gateway to smoking for youth. However, 76% respondents did not agree with this perception. Further, vaping is also taken as a ploy of the tobacco industry. Here also 80.5% respondents did not agree. Similarly, 73.6% and 74.7% vapers agreed that vaping is less harmful for health and it can help in quitting smoking respectively. These findings are consistent with the recent studies by the [Sarfraz et al \(2020\)](#); [Hafiz, Rahman, & Jantan \(2019\)](#) and [Abo-elkheir & Sobh \(2016\)](#). Vapers, however, seem to be significantly divided on the question of long-term health effects of vaping – 46% agreed they are apprehensive while 54% are not. This apprehension about the long-term effects is related to respondents associating vaping with diseases such as lung cancer, COPD, asthma, and heart disease.

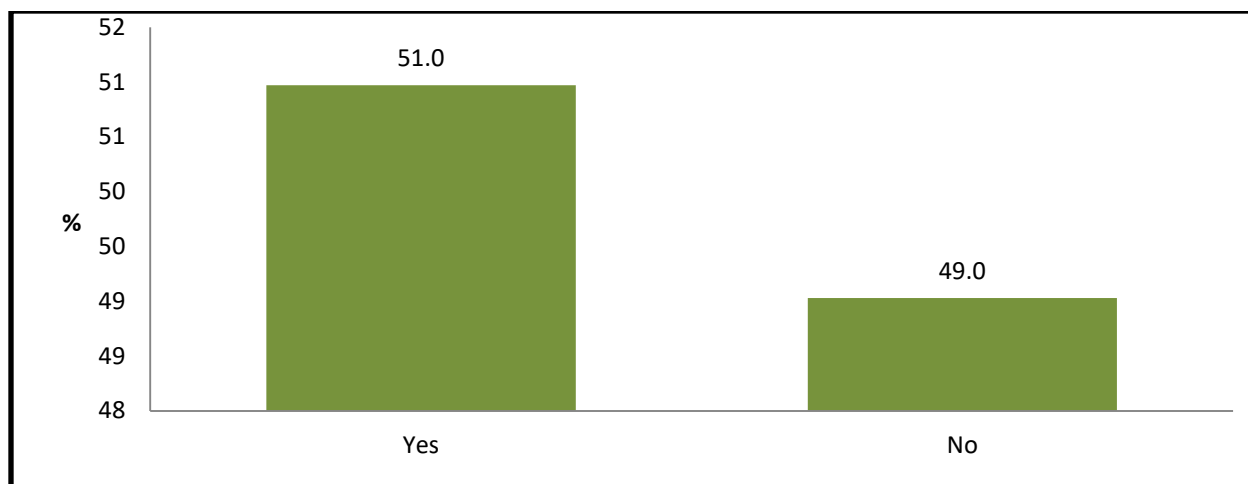
**Table 2: Perceptions about Vaping**

	Agree	Disagree
Gateway to smoking for youth	24%	76%
A new ploy of tobacco industry	19.5%	80.5%
Less harmful to health of smokers	73.6%	26.4%
Vaping can help in quitting smoking	74.7%	25.3%
Apprehensive about Long-term Health Effects of E-cigarettes	46%	54%

### 3.2.7 Inquiries about Vaping

After coming to know about vaping for the first time, 51% respondents made further inquiries about it while the rest 49% did not.



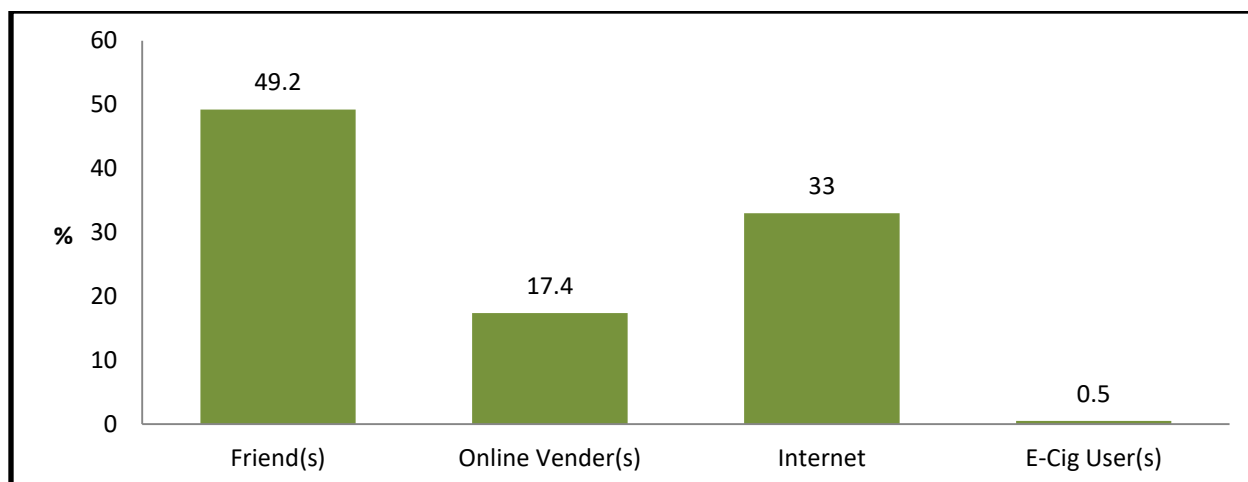


**Figure 15: Inquiries about Vaping**

### **3.2.8 Main Source of Information**

For half of the respondents who made further inquiries after coming to know about vaping, the main source of information was a friend. However, one-third took to internet to get more information about vaping. The rest contacted the online vaping outlets for information. This highlight the fact individuals predominantly decide on their own about trying any alternative to combustible smoking.

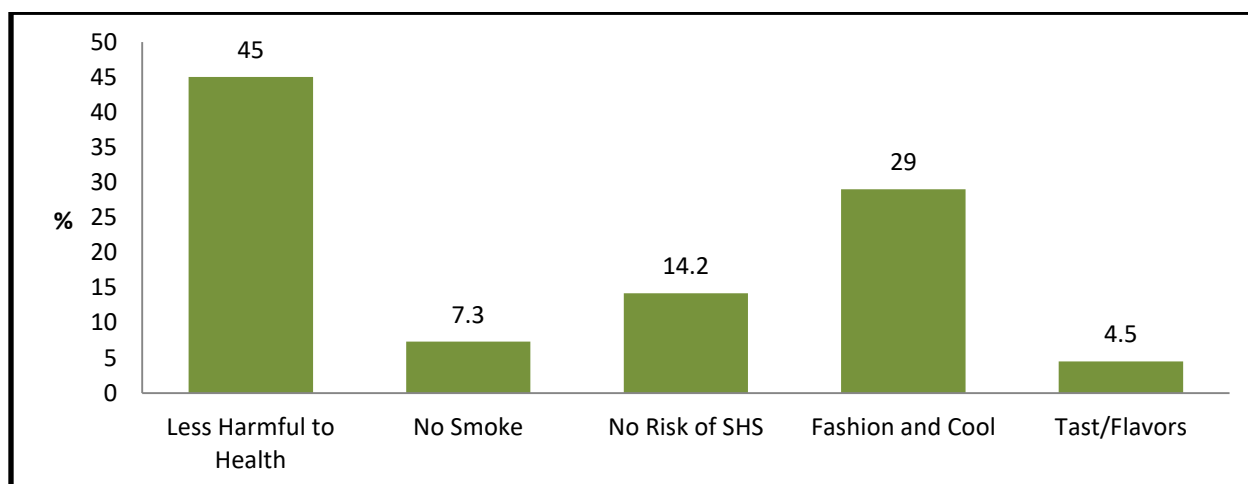
Co-relation indicates that the respondents with less than higher secondary education do not make any further inquiry after coming to know about vaping. They are mostly from poor and middle class localities. However, respondents with higher education from the well-off families make more inquiries (online/friends) about vaping (See Annexure B).



**Figure 16: Main Source of Information about Vaping**

### 3.2.9 Decision to Vape

Nearly half of the respondents (45%) opted for vaping as it is less harmful than combustible smoking. However, 29% said they choose to vape because it makes them look cool. While 14% liked the fact that there is no risk of secondhand smoke associated with vaping. Recent studies illustrate e-cigarettes can be used at smoke free places and that e-cigarettes are not harmful to health ([Hafiz, Rahman, & Jantan, 2019](#) and [Abo-elkheir & Sobh, 2016](#)).



**Figure 17: Reason for Opting for Vaping**



### 3.3 Attitude

Overall, vapers think vaping is less addictive than smoking. A little more than half of the respondents (51.5%) think the addiction of vaping is much less than smoking, followed by 23.5% who think vaping is slightly less addictive. However, 14.5% found both vaping and smoking equally addictive while for 9.1% vaping is slightly more addictive. Predominantly, Rawalpindi 96.1% respondents thought vaping is much less addictive than smoking, followed by 84.2% in Islamabad, 83.3% in Peshawar, 71.4% in Abbottabad, 51.2% in Lahore, and 40.4% in Karachi. We did not find any association between age and attitude towards vaping addiction. However, education and residential area status are significantly associated with perception of vaping addiction. Those with higher education living in posh areas think that vaping is much less addictive (See Annexure C).

**Table 3: Addiction of Vaping and Smoking**

	Much Addictive	Less Addictive	Slightly Less Addictive	Equally Addictive	Slightly More Addictive	Much More Addictive
<b>Addiction of Vaping and Smoking</b>	51.5		23.5	14.5	9.1	1.5

#### 3.3.1 Attitude towards Vaping

Young people in Pakistan are taking up vaping because it makes them look cool. Nearly half of the respondents (48.7%) agreed that young people are vaping as it makes them socially more acceptable. Respondents (21%) strongly agreed with this perception. Respondents in Islamabad (63.4%), Abbottabad (57.1%), Lahore (53.5%), Karachi (47.8%), Rawalpindi (42.9%), Multan (38.5%), and Quetta (33.3%) agreed that vaping makes them look cool. Most of those who agree with this perception are young (18-30 years) and educated (higher secondary and above) (See Annexure C).

Respondents (53%) agreed there is no risk of SHS associated with vaping. This agreement has been found across in all age brackets, education, and socio-economic levels (See Annexure C). However, 21% did not agree with this perception.

Respondents (59%) expressed a high acceptance for vaping at places where cigarettes are banned but 17% did not agree. This acceptance has been found in respondents with higher education living in upscale localities (See Annexure C). Similarly, 59% vapers each agreed that vaping helps in reducing or quitting combustible smoking. In across 11 cities, mostly respondents agree with these two perceptions.

However, vapers with low education seem to be confused/undecided about vaping helping in reducing or quitting combustible smoking (See Annexure C).

Though vapers want more public space for vaping, they seem to be reluctant to give permission for vaping in their personal space. Only 30.5% respondents said they would allow others to vape in their home or car.

As vaping is being done in regulatory vacuum in Pakistan, 59% of the respondents want regulation of vaping like other tobacco products. Only 15% do not want vaping to be regulated like any other tobacco product. However, a little less than half of respondents (46%) agree to regulate vaping at the work and public places. Meanwhile, 25% respondents strongly back regulation for vaping at work and public places.

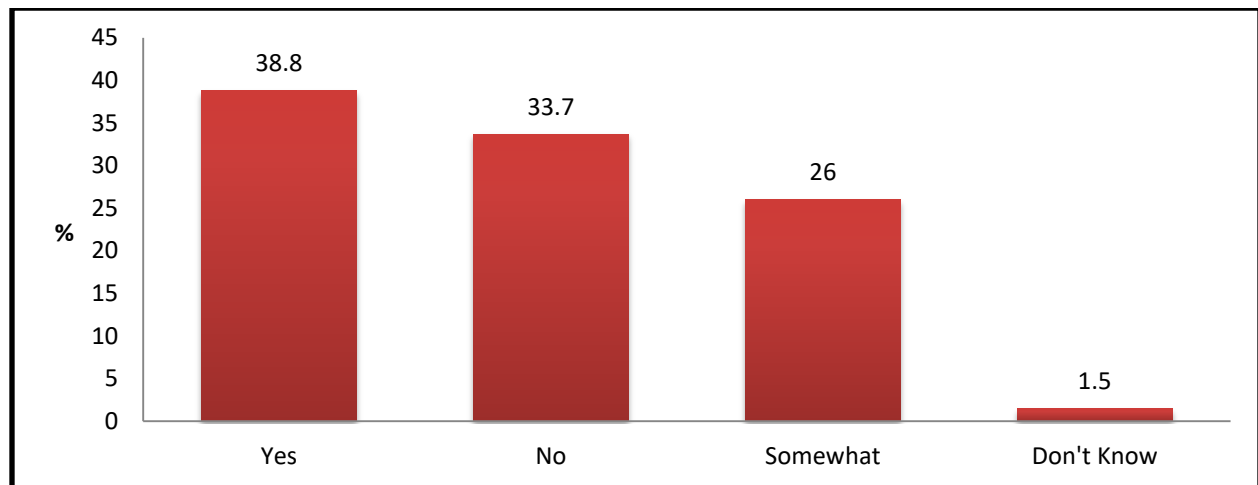
**Table 4: Attitude towards Vaping**

	Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
<b>Vaping makes young people “fit in”, feel “cool” and become socially more acceptable?</b>	3.0	20.1	7.2	48.7	21.1
<b>There is no risk of SHS associated with vaping</b>	4.7	20.9	8.6	52.6	13.1
<b>Vaping can be done in places where combustible cigarettes are banned</b>	4.1	16.9	8.4	59.0	11.6
<b>Vaping makes it easier to cut down on the number of cigarettes that I smoke</b>	5.6	12.9	6.8	59.5	15.2
<b>Vaping may help me quit combustible smoking</b>	6.1	11.1	5.5	58.9	18.5
<b>I allow people to vape in my home/car</b>	6.5	41.6	13.9	30.5	7.5
<b>Vaping should be regulated like other tobacco products</b>	2.8	15.2	8.3	59.3	14.5
<b>Vaping should be regulated in work and public places</b>	2.6	21.4	5.0	46.2	24.8

### 3.3.2 Vaping Addiction

Respondents seem to be divided on the question of vaping addiction – 39% say it is addictive while 34% disagree. As switching to or initiating vaping is an individual decision, currently attitude towards vaping is vague. Its use and experience varies from individual to individual, and the users seem to be somewhat confused about its addiction. Mostly young vapers (18-30 years) think vaping is additive (See Annexure

C). These findings are consistent with [Iqbal, Khan, Anwar, Irfan, & Irfan \(2018\)](#) and [Puteh, Manap, Hassan, Ahmad, & Idris \(2018\)](#) and [Sarfraz et al \(2020\)](#).



**Figure 18: Vaping is Addictive**

### 3.3.3 Dual Use of Vaping/Smoking

Respondents are divided on the reasons for the dual use of vaping and smoking. This difference has been found across the selected districts, age, education, and socio economic level (See Annexure C). Most of respondents (30%) did not know why people vape and smoke simultaneously. However, for 23% the main reason is indecisiveness, followed by 21% who say vaping fails to satisfy their nicotine level. Similarly, 22% say the dual use gives them more options of vaping or smoking. As most of the smokers in Pakistan start vaping mainly on the advice of friends, their experiences vary individually. Some switch to vaping permanently, some give up both vaping and smoking, some start smoking again while others continue to vape and smoke at the same time. There is need for probing further the decision making of smokers after they switch to vaping ([Puteh, Manap, Hassan, Ahmad, & Idris, 2018](#)).

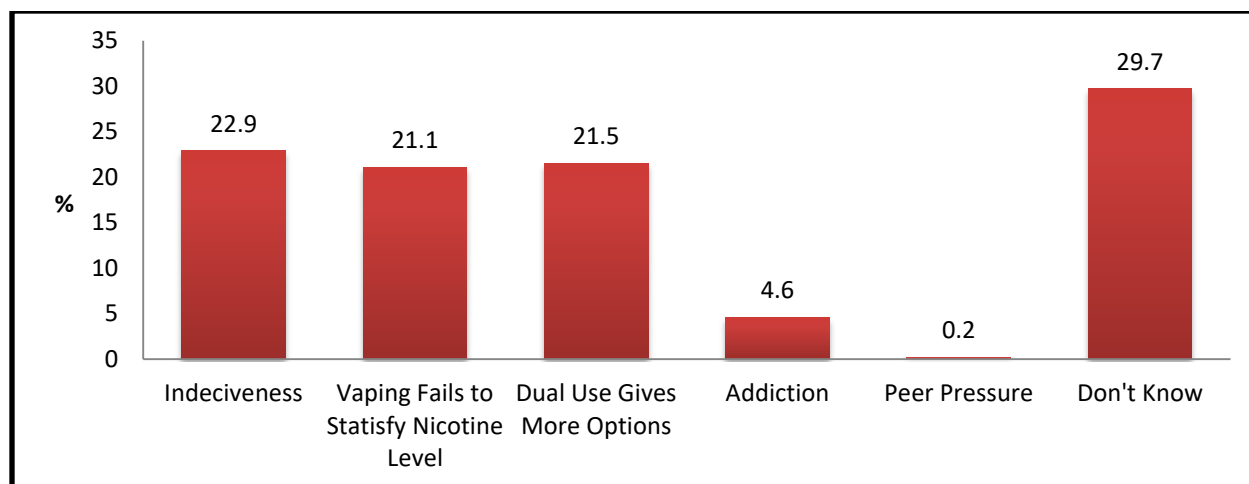


Figure 19: Dual Use of Vaping and Smoking

### 3.4 Practice

#### 3.4.1 Vaping Frequency

A little more than half of the respondents (54%) vape daily while 46% vape less than daily. More respondents vape daily in Rawalpindi (84.4%), Islamabad (84.2%), Multan (53.9%), and Lahore (50.5%) than in Karachi (48.2%), Faisalabad (22.2%), and Hyderabad (17.7%) (See Annexure D).

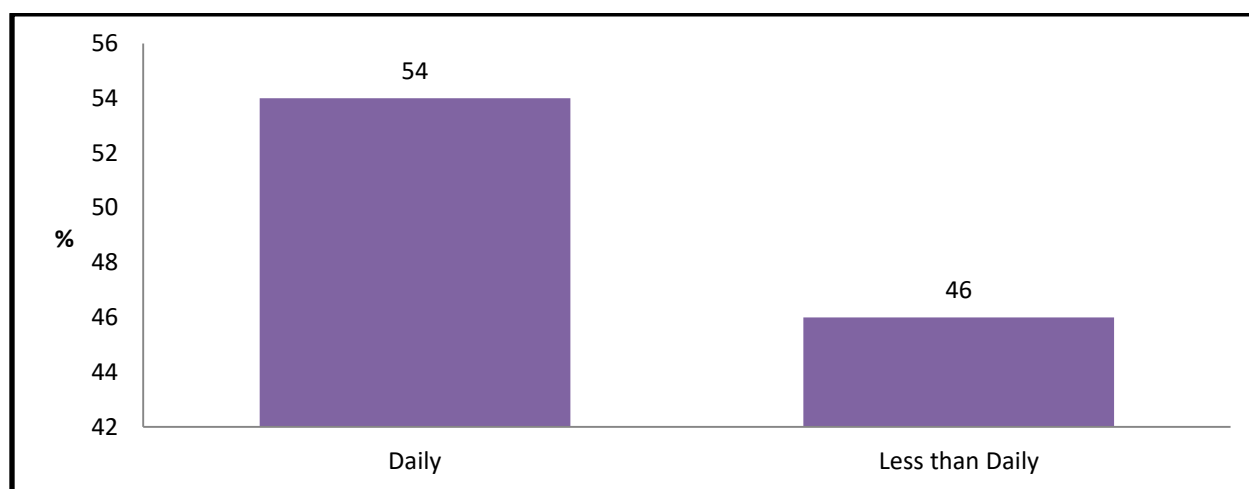
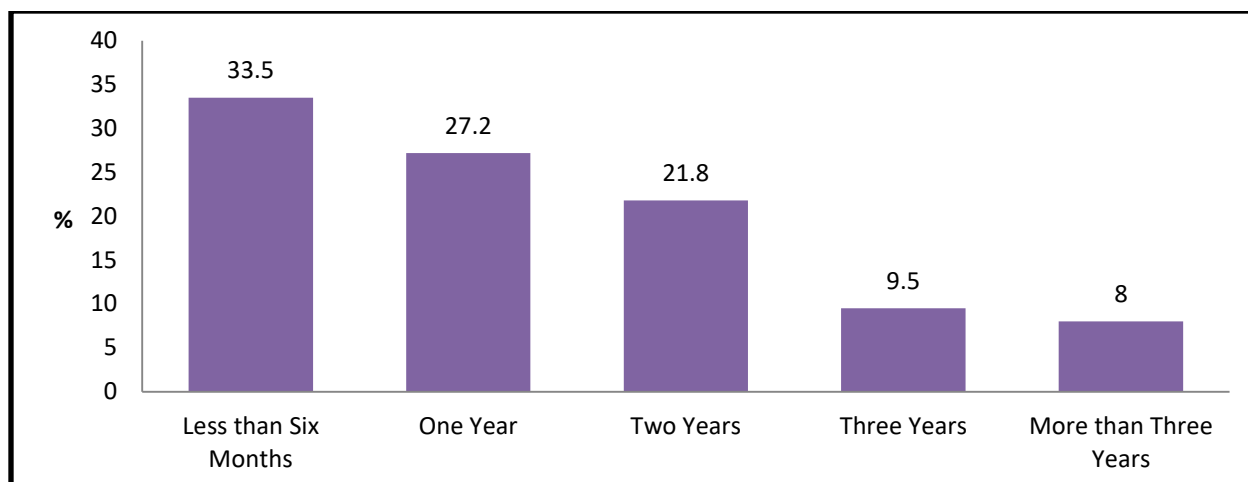


Figure 20: Vaping Frequency

#### 3.4.2 Timeframe

Most of the respondents (33.5%) who have started vaping in the last six months are young and belong to Lahore, Multan, Faisalabad, and Abbottabad (See Annexure D). However, 27% and 22% respondents have been vaping for the last one and two years respectively. Only 10% have been vaping for the last three years and 8% for more than three years. Though vaping is a recent phenomenon in Pakistan, it seems young people are directly starting vaping, instead of taking the usual route of smoking and switching to vaping. However, this aspect needs to be probed further.

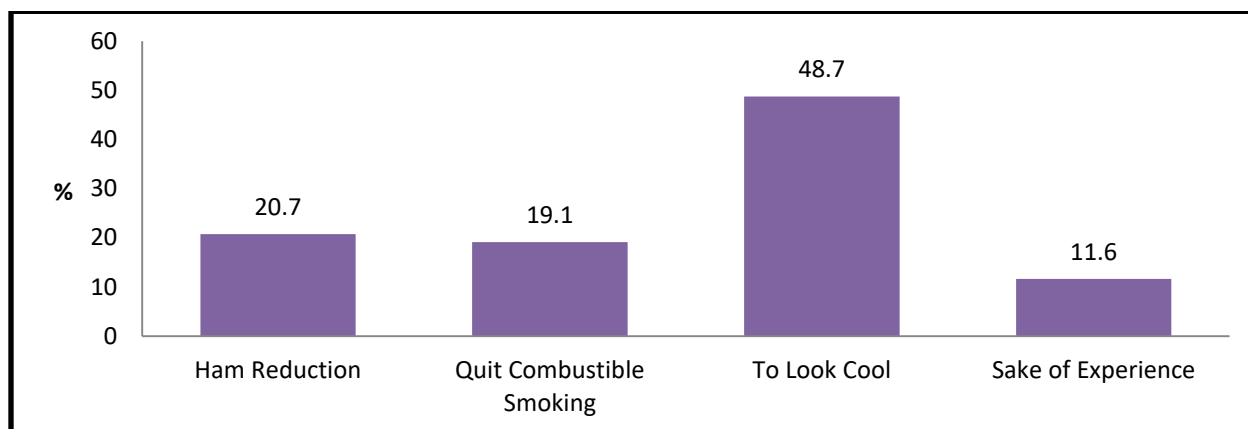




**Figure 21: Vaping Timeframe**

### 3.4.3 Initiating Vaping

Nearly half of the respondents (48.7%) started vaping mainly because it makes them look cool. Only 21% started vaping with the intention of harm reduction while 19% switched to it to quit smoking. While 12% tried vaping for the sake of experiencing it. Respondents (18-30 years) are vaping because of its cool factor while those over 35 years are more health conscious and vaping to quit smoking. Respondents (52.2%), who are between 18-30 years of age, have started vaping to look cool. Most of them are educated and they live in upper middle class and rich localities. On the other hand, 45.2% in the 31-40 years age bracket have opted for vaping to quit smoking (See Annexure D). However, there was no significant difference of opinion in recent research studies among vapers and non-vapers when they were asked whether e-cigarette helped in quitting or less harmful than conventional cigarette (Hafiz, Rahman, & Jantan, 2019; Shaikh, Ansari, Ahmad, Shaikh, & Khalid, 2017 and Puteh, Manap, Hassan, Ahmad, & Idris, 2018).



**Figure 22: Reason for Vaping**

#### 3.4.4 Individual Decision

The decision to start or switch to vaping is an individual choice in Pakistan. In this regard, medical consultation is absent. Around 91% of the respondents did not consult a doctor when they decided to vape. Currently, there are no regulations or policies for vaping in Pakistan. Since assistance for smoking cessation is conspicuous by its absence, respondents depend more on the advice of friends and internet to start or switch to vaping. In Multan, Sialkot, Faisalabad, Abbottabad, and Quetta, none of the respondents consulted doctor before starting vaping (See Annexure D).

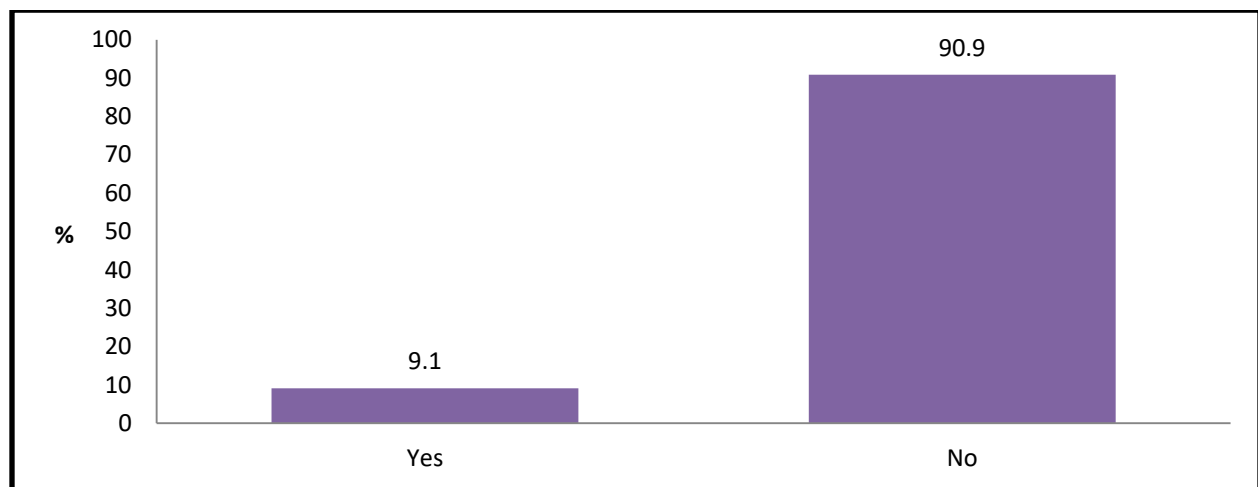
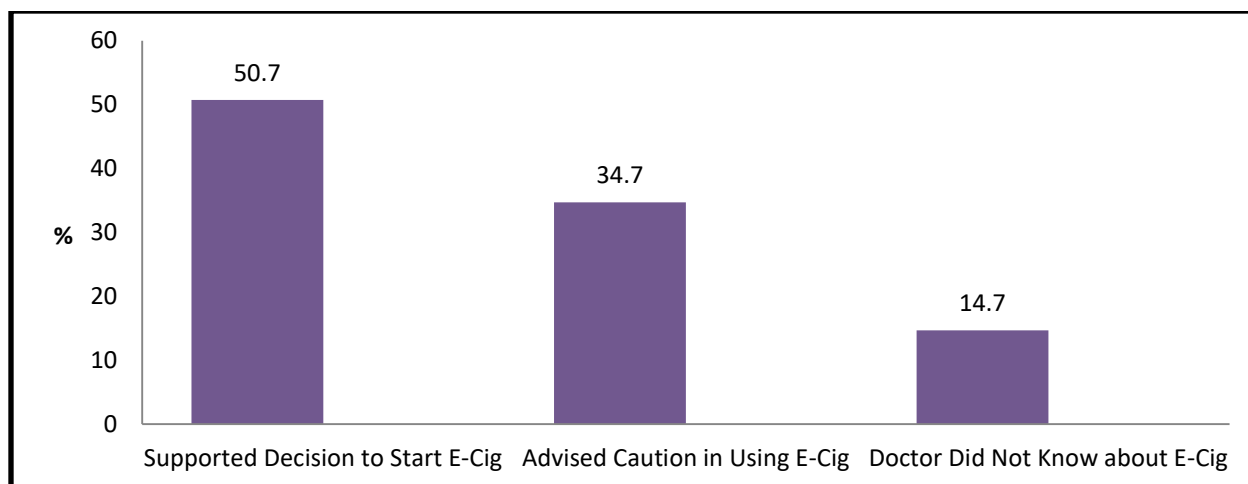


Figure 23: Medical Advice

#### 3.4.5 Medical Advice

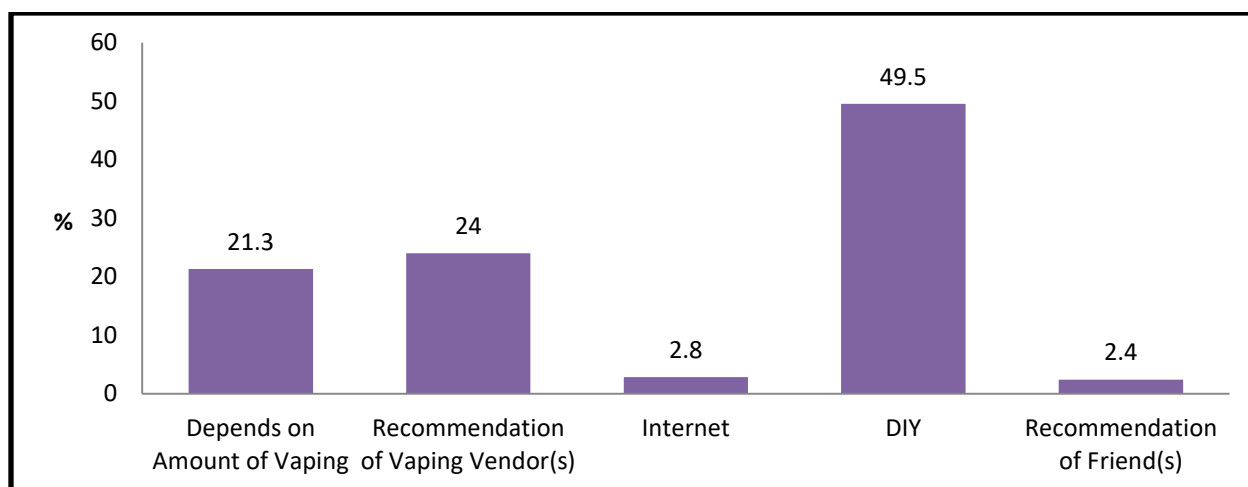
Half of the respondents who sought medical advice before starting vaping said the doctor supported their decision. However, one-third said the doctor advised caution and 15% maintained the doctor did not know about vaping. This highlights the fact that smoking cessation is not part of the tobacco control efforts in Pakistan. The emphasis is on prevention and the will power of the smoker and at the same time rejecting or ignoring any alternative that may assist the smoker in harm reduction or quitting smoking.



**Figure 24: Doctor's Advice**

### 3.4.6 Nicotine Level

The decision about the level of nicotine in vaping remains an individual choice, with almost no medical consultation. Half of the respondents do it themselves (DIY) while one-fourth consult vaping vendors. For 21.3% of the respondents, the level of nicotine depends on the amount of vaping. Only less than 3% consult internet to get information on the level of nicotine in their vape.

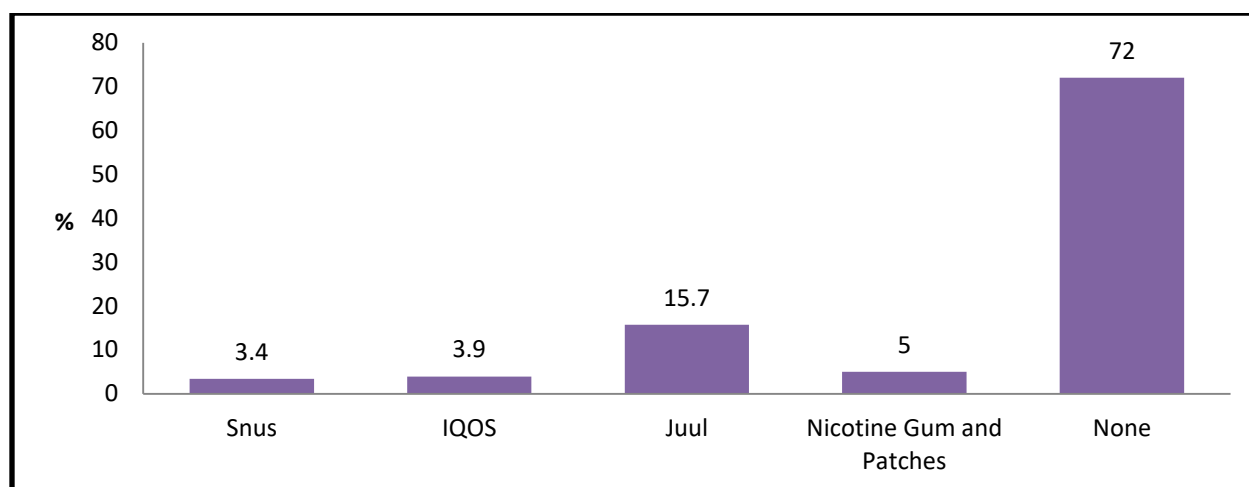


**Figure 25: Level of Nicotine**

### 3.4.7 Other SNDS

For vaping, respondents predominantly use e-cigarettes in Pakistan. Almost all the brands of e-cigarettes are imported from China. However, vapers know about and use other options such as SNUS, IQOS and Juul. Less than 4% each have used SNUS and IQOS, which are products of British American Tobacco and Philip Morris International, while 15.7% have used Juul. Only 5% said they use nicotine gum and patches.

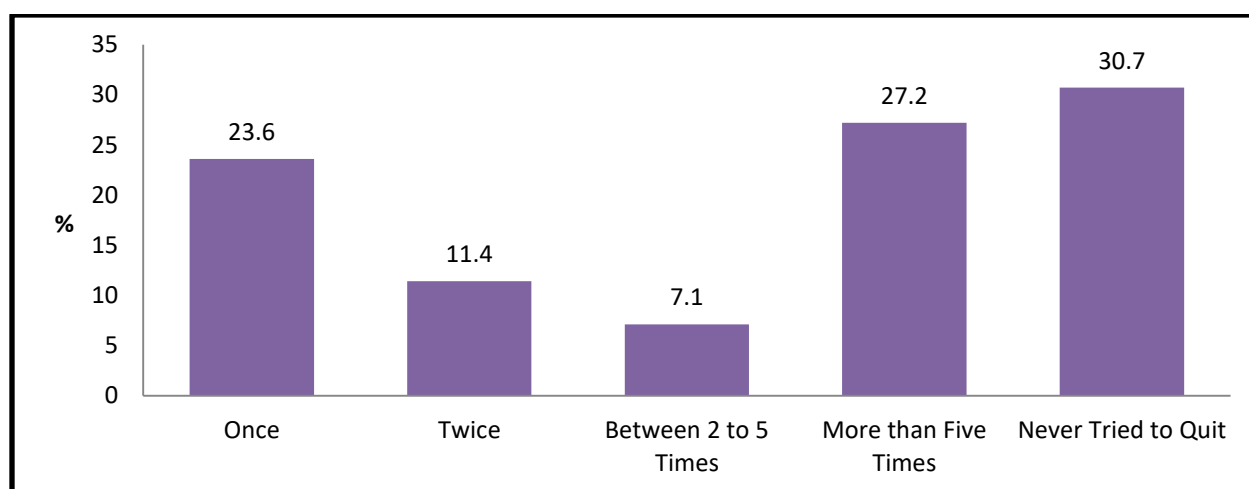
Most of the respondents who have used nicotine gum and patches are well-off, educated, and between 41-50 years of age (See Annexure D).



**Figure 26: Other Safer Nicotine Delivery Systems**

### 3.4.8 Smoking Quit Attempts

Of the respondents who switched to vaping, 31% never made an attempt to quit smoking while 27% made more than five attempts, followed by 24% who tried to give up combustible smoking once. Pakistan has one the lowest rates of quitting smoking in the world. Though 24.7% smokers make a quitting attempt in a year, 97.4% of them fail to quit completely. In other countries, 40-50% smokers make a quitting attempt every year (Shaheen, Oyeboode, & Masud, 2018).



**Figure 27: Quitting Smoking**

### 3.4.9 Reasons for Failing to Quit

Respondents (53%) said they were not motivated enough to quit smoking, followed by 18% who thought their quitting methods were not suitable. Others (10.3%) listed peer pressure as the main reason for not giving up smoking. However, 8.7% respondents said they were addicted to combustible smoking.

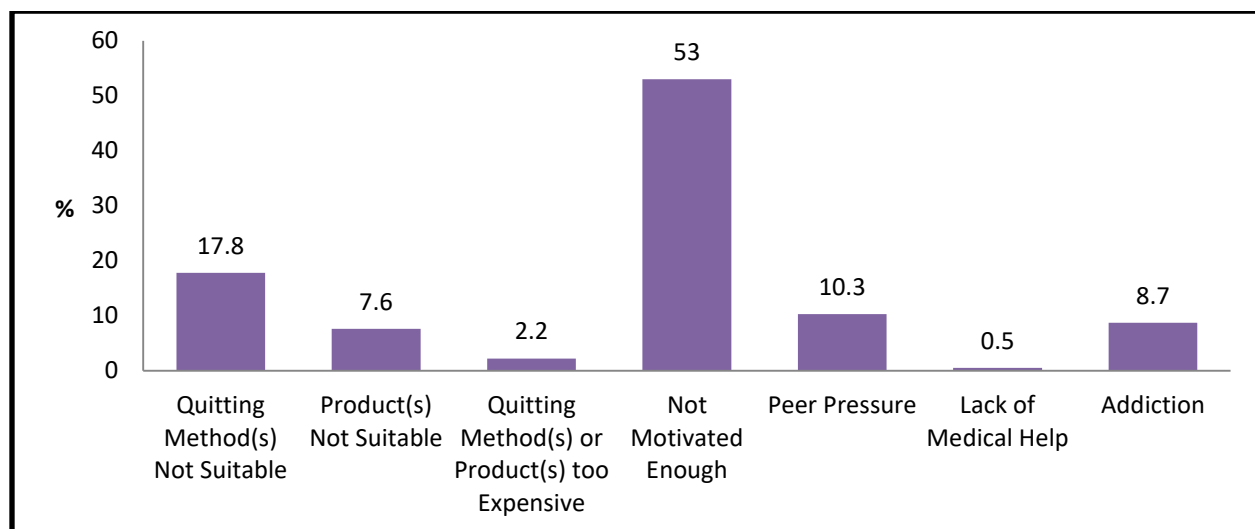


Figure 28: Reasons for Failed Quit Attempts

### 3.4.10 Negative News Regarding Vaping

The effect of negative news regarding vaping seems to be negligible in Pakistan. Most of the vapers (59%) tend to ignore negative news. However, one-fifth of vapers read them carefully. Only 8% say they think about their use of vaping while 6% reduce their vaping level. For less than 5%, most of such news are fake. Most of the media coverage, both on the electronic and print media, about vaping in Pakistan is negative. The vaping related deaths in America were given huge coverage in Pakistani media.

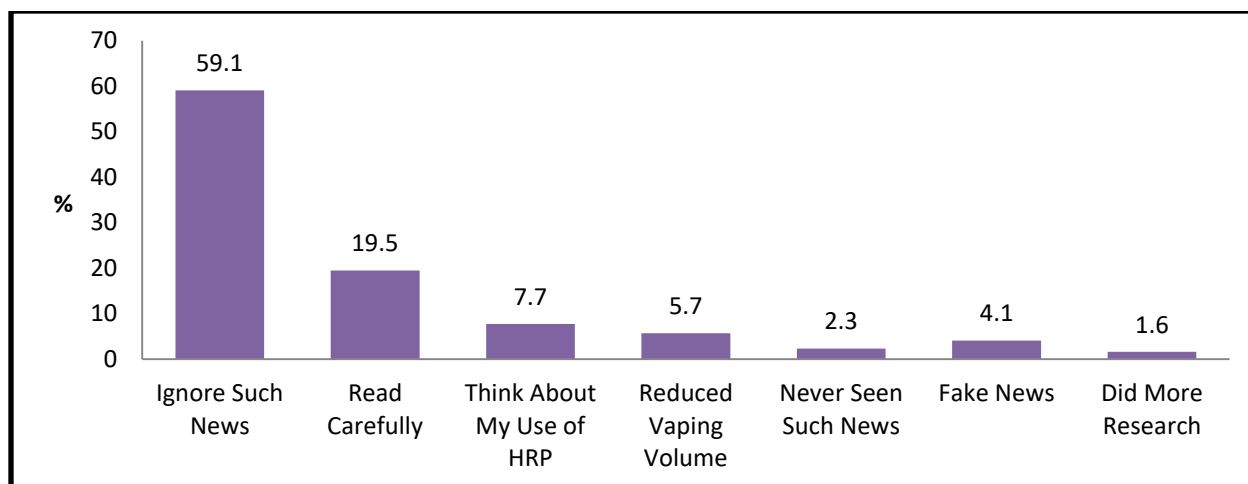


Figure 29: Negative News Regarding Vaping

#### 4 Conclusions and Recommendations

Predominantly young people have taken up vaping in Pakistan. Most of these vapers are based in Karachi, Hyderabad, Lahore, and Islamabad. Most have higher secondary education and are employed. However, 39% vapers termed themselves as students.

Overall vapers have noticed improvement in their health after switching to vaping from smoking. However, vapers generally are unaware about the health effects of vaping. They may be able to register improvement in their personal health, but their knowledge about the effects of vaping on health is vague.

Vapers do not agree that vaping is a gateway to smoking for youth. They agree vaping is less harmful for health and can help in quitting smoking. Vapers, however, seem to be significantly divided on the question of long-term health effects of vaping. Overall vapers say vaping is less addictive than smoking. Vapers (53%) agreed there is no risk of SHS associated with vaping while 59% expressed a high acceptance for vaping at places where cigarettes are banned. However, they are divided on the reasons for dual use of vaping and smoking. This difference has been found across the selected districts, age, education, and socioeconomic levels. Most of them (30%) did not know why people vape and smoke simultaneously. However, for 23% of the respondents the main reason is indecisiveness, followed by 21% who say that vaping fails to satisfy their nicotine level. Similarly, 22% say the dual use gives them more option of vaping or smoking.

Nearly half of the respondents (48.7%) say they have started vaping because it makes them look cool. Only 21% started vaping with the intention of harm reduction while 19% switched to it to quit smoking. Most of the vapers (59%) tend to ignore negative news. However, one-fifth of them read them carefully.

The following recommendations are based on the findings of this study:

- Scientific research on the safety and efficacy of SNDS as a smoking cessation tool is required in developing countries. A country like Pakistan, where vaping has been allowed in a regulatory, vacuum urgently needs scientific evidence on the safety and efficacy of SNDS. This would help in advocating with policymakers for sensible regulations, presenting SNDS as a safe choice compared to cigarettes, and making them part of the tobacco control efforts in Pakistan.
- The majority of the smokers are low-income and socially deprived. They use the cheapest brand of cigarettes. On the other hand, the majority of the vapers belong to the middle and higher income social groups. Understandably smoking cessation initiatives should be more targeted

towards the lower income groups unable to purchase or access HRPs. There is a need to probe possible policy and social interventions to ensure SNDS are affordable and accessible to low-income smokers in Pakistan.

- According to the study results, the majority of the vapers are still confused about SNDS products. As such, there is a need to increase not only awareness but also impart knowledge on SNDS use in Pakistan.

## **5 Field Challenges**

During the KAP study, a number of challenges were faced. Owners of outlets resisted interviews of respondents. In Lahore, Islamabad, Karachi, Rawalpindi, owners stopped enumerators from approaching vapers at their outlets. Some thought the enumerators were from the government tax machinery while others said they were workers of a private company planning to establish a vaping chain in Pakistan. At a number of places, vapers were also found to be reluctant. This shows that vaping is still taken as an activity not approved by elders, parents, etc.

We did not find any female customer at vaping outlets in the 11 districts. When we inquired from the owners about their absence, they said female vapers do not come to their shops and order for online delivery. In some cities, e-cigarettes are sold at pan (beetle) shops. However, after listing these shops, they were excluded from the survey because of lack of buyers.



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## 6 Annexures

### Annex A: Demographics

#### Summary of Demographic Characteristics

**Table A1: Summary of Demographic Characteristics**

Indicators	Categories	Proportion Estimation (%)	Std. Err.	[95% Conf. Interval]		N
<b>Gender</b>	Male	100	-	-	-	822
<b>Age</b>	18-30	86.9	0.012	84.4	89.0	714
	31-40	11.3	0.011	9.3	13.7	93
	41-50	1.6	0.004	0.9	2.7	13
	>50	0.2	0.002	0.1	1.0	2
<b>Education</b>	Illiterate	0.7	0.003	0.3	1.6	6
	Primary	0.9	0.003	0.4	1.8	7
	Secondary	11.2	0.011	9.2	13.5	92
	Higher Secondary	35.2	0.017	32.0	38.5	289
	Graduation	33.1	0.016	29.9	36.4	272
<b>Employment Status</b>	Post-Graduation	19.0	0.014	16.4	21.8	156
	Employed	39.8	0.017	36.5	43.2	327
	Self-employed	16.3	0.013	13.9	19.0	134
	Student	39.1	0.017	35.8	42.4	321
	Unemployed	4.9	0.008	3.6	6.6	40

Household Income	<=20,000	0.7	0.003	0.3	1.8	4
	21,000 - 40,000	10.1	0.013	7.8	12.8	58
	41,000 - 60,000	25.6	0.018	22.2	29.4	148
	61,000 - 80,000	26.0	0.018	22.6	29.7	150
	>80000	37.6	0.020	33.7	41.6	75
Classification of Residential Area	Poor	2.9	0.006	2.0	4.3	24
	Middle Class	36.4	0.017	33.1	39.7	299
	Upper Middle Class	47.1	0.017	43.7	50.5	387
	Rich	13.6	0.012	11.4	16.2	112
Age When First Smoked in Years	10 up to 15	5.6	0.008	4.2	7.4	46
	15 up to 20	39.7	0.017	36.4	43.1	326
	20 up to 25	17.4	0.013	15.0	20.1	143
	25 and above	2.3	0.005	1.5	3.6	19
	Never used	35.0	0.017	31.8	38.4	288

## Demographic Regional Analysis

Table A2: Age in Years

Districts	18-30	31-40	41-50	>50	Total
Lahore	93.4	5.3	1.0	0.3	301
Rawalpindi	70.1	23.4	5.2	1.3	77
Multan	46.2	46.2	7.7	0.0	13
Sialkot	79.0	15.8	5.3	0.0	19
Faisalabad	88.9	11.1	0.0	0.0	9
Karachi	90.1	9.2	0.7	0.0	272
Hyderabad	100.0	0.0	0.0	0.0	17
Peshawar	83.3	16.7	0.0	0.0	6
Abbottabad	85.7	14.3	0.0	0.0	14
Quetta	41.7	58.3	0.0	0.0	12
Islamabad	80.5	17.1	2.4	0.0	82
Total	86.9	11.3	1.6	0.2	822

Table A3: Education

Districts	Illiterate	Primary	Secondary	Higher Secondary	Graduation	Post-Graduation	Total
Lahore	0.0	0.7	6.6	42.9	30.9	18.9	301
Rawalpindi	1.3	1.3	24.7	16.9	27.3	28.6	77
Multan	0.0	15.4	38.5	0.0	15.4	30.8	13
Sialkot	0.0	5.3	63.2	5.3	26.3	0.0	19
Faisalabad	0.0	0.0	0.0	0.0	33.3	66.7	9
Karachi	1.5	0.4	7.7	40.1	36.8	13.6	272

Hyderabad	5.9	0.0	5.9	23.5	64.7	0.0	17
Peshawar	0.0	0.0	16.7	50.0	0.0	33.3	6
Abbottabad	0.0	0.0	14.3	28.6	50.0	7.1	14
Quetta	0.0	0.0	0.0	0.0	50.0	50.0	12
Islamabad	0.0	0.0	13.4	31.7	29.3	25.6	82
Total	0.7	0.9	11.2	35.2	33.1	19.0	822

**Table A4: Employment Status**

Districts	Employed	Self-employed	Unemployed	Student	Total
Lahore	23.9	10.0	4.0	62.1	301
Rawalpindi	54.6	16.9	5.2	23.4	77
Multan	38.5	38.5	15.4	7.7	13
Sialkot	31.6	21.1	47.4	0.0	19
Faisalabad	77.8	0.0	0.0	22.2	9
Karachi	48.5	21.0	1.8	28.7	272
Hyderabad	52.9	11.8	0.0	35.3	17
Peshawar	50.0	16.7	16.7	16.7	6
Abbottabad	64.3	35.7	0.0	0.0	14
Quetta	41.7	50.0	8.3	0.0	12
Islamabad	45.1	13.4	7.3	34.2	82
Total	39.8	16.3	4.9	39.1	822

**Table A5: Income Level**

Districts	<=20,000	21,000 - 40,000	41,000 - 60,000	61,000 - 80,000	>80000	Total
Lahore	0.4	6.2	25.4	25.8	42.3	260
Rawalpindi	5.7	5.7	5.7	11.4	71.4	35
Multan	0.0	30.8	46.2	0.0	23.1	13
Sialkot	0.0	63.2	36.8	0.0	0.0	19
Faisalabad	0.0	0.0	25.0	37.5	37.5	8
Karachi	0.0	9.5	31.8	35.2	23.5	179
Hyderabad	0.0	20.0	20.0	50.0	10.0	10
Peshawar	16.7	16.7	0.0	16.7	50.0	6
Abbottabad	0.0	0.0	0.0	100.0	0.0	2
Quetta	0.0	8.3	25.0	33.3	33.3	12
Islamabad	0.0	9.1	9.1	3.0	78.8	33
Total	0.7	10.1	25.7	26.0	37.6	577

**Table A6: How would you classify your residential area?**

Districts	Poor	Middle Class	Upper Middle Class	Rich	Total
Lahore	3.7	28.6	52.8	15.0	301
Rawalpindi	2.6	42.9	54.6	0.0	77
Multan	15.4	23.1	46.2	15.4	13
Sialkot	0.0	100.0	0.0	0.0	19
Faisalabad	0.0	77.8	22.2	0.0	9
Karachi	1.1	33.5	43.8	21.7	272
Hyderabad	0.0	52.9	47.1	0.0	17
Peshawar	16.7	16.7	66.7	0.0	6
Abbottabad	0.0	50.0	42.9	7.1	14
Quetta	0.0	33.3	41.7	25.0	12
Islamabad	6.1	47.6	43.9	2.4	82
Total	2.9	36.4	47.1	13.6	822

**Table A7: What was your age when you started smoking cigarette?**

Districts	10-15	15-20	20-25	25 and above	Never Used	Total
Lahore	2.0	54.2	21.3	0.3	22.3	301
Rawalpindi	10.4	50.7	15.6	1.3	22.1	77
Multan	0.0	23.1	23.1	15.4	38.5	13
Sialkot	84.2	15.8	0.0	0.0	0.0	19
Faisalabad	0.0	11.1	33.3	0.0	55.6	9
Karachi	3.3	23.5	17.7	3.7	51.8	272
Hyderabad	0.0	11.8	17.7	0.0	70.6	17
Peshawar	16.7	33.3	0.0	0.0	50.0	6
Abbottabad	0.0	21.4	14.3	0.0	64.3	14
Quetta	0.0	25.0	16.7	8.3	50.0	12
Islamabad	7.3	52.4	7.3	4.9	28.1	82
Total	5.6	39.7	17.4	2.3	35.0	822

## Annex B: Knowledge

### Knowledge Regional Analysis

**Table B1: How did you come to know about vaping?**

Districts	Friend(s)	Internet/Online Social Media	Shop(s)	Relative(s)	Total
Lahore	68.4	26.3	5.3	0.0	301
Rawalpindi	46.8	31.2	18.2	3.9	77
Multan	69.2	7.7	23.1	0.0	13
Sialkot	73.7	26.3	0.0	0.0	19
Faisalabad	66.7	11.1	22.2	0.0	9

Karachi	62.1	27.2	9.2	1.5	272
Hyderabad	76.5	11.8	11.8	0.0	17
Peshawar	66.7	0.0	16.7	16.7	6
Abbottabad	50.0	21.4	28.6	0.0	14
Quetta	66.7	33.3	0.0	0.0	12
Islamabad	73.2	17.1	6.1	3.7	82
Total	64.7	25.2	8.8	1.3	822

**Table B2: Did you make more inquiries about vaping after you came to know about it?**

Districts	Yes	No	Total
Lahore	31.2	68.8	301
Rawalpindi	80.5	19.5	77
Multan	46.2	53.9	13
Sialkot	21.1	79.0	19
Faisalabad	11.1	88.9	9
Karachi	59.9	40.1	272
Hyderabad	70.6	29.4	17
Peshawar	83.3	16.7	6
Abbottabad	50.0	50.0	14
Quetta	41.7	58.3	12
Islamabad	73.2	26.8	82
Total	51.0	49.0	822

**Table B3: If yes, what was the main source of information about vaping?**

	Lahore	Rawalpindi	Multan	Sialkot	Faisalabad	Karachi	Hyderabad	Peshawar	Abbottabad	Quetta	Islamabad	Total
<b>Friend(s)</b>	47.8	27.9	50.0	50.0	100.0	62.0	58.3	25.0	14.3	60.0	40.0	49.2
<b>Online Vendor(s)</b>	26.1	6.6	16.7	25.0	0.0	23.9	0.0	0.0	0.0	0.0	5.0	17.4
<b>Internet</b>	26.1	65.6	16.7	25.0	0.0	13.5	41.7	75.0	85.7	40.0	55.0	33.0
<b>E-Cig Users</b>	0.0	0.0	16.7	0.0	0.0	0.6	0.0	0.0	0.0	0.0	0.0	0.5
<b>Total</b>	92	61	6	4	1	163	12	4	7	5	60	415

**Table B4: Do you know about the ingredients of e-cigarette?**

Districts	Yes	No	Total
Lahore	27.2	72.8	301
Rawalpindi	92.2	7.8	77
Multan	46.2	53.9	13
Sialkot	5.3	94.7	19
Faisalabad	0.0	100.0	9
Karachi	76.5	23.5	272
Hyderabad	88.2	11.8	17
Peshawar	66.7	33.3	6
Abbottabad	78.6	21.4	14
Quetta	66.7	33.3	12
Islamabad	91.5	8.5	82
Total	58.5	41.5	822

**Table B5: Do you know about levels of nicotine in an e-cigarette?**

Districts	Yes	No	Total
Lahore	34.9	65.1	301
Rawalpindi	98.7	1.3	77
Multan	23.1	76.9	13
Sialkot	10.5	89.5	19
Faisalabad	0.0	100.0	9
Karachi	78.3	21.7	272
Hyderabad	47.1	52.9	17
Peshawar	66.7	33.3	6
Abbottabad	64.3	35.7	14
Quetta	58.3	41.7	12
Islamabad	97.6	2.4	82
Total	61.7	38.3	822

**Table B6: What is your main source of information about latest models of e-cigarettes?**

Districts	E-Cig Users /Friend(s)	Internet/Online Vendor(s)	Facebook groups	E-Cig Outlet(s)	Total
Lahore	57.5	29.2	3.3	10.0	301
Rawalpindi	1.3	28.6	0.0	70.1	77
Multan	30.8	7.7	0.0	61.5	13
Sialkot	68.4	21.1	10.5	0.0	19
Faisalabad	55.6	22.2	0.0	22.2	9
Karachi	36.4	38.6	3.3	21.7	272



<b>Hyderabad</b>	29.4	47.1	5.9	17.7	17
<b>Peshawar</b>	16.7	50.0	0.0	33.3	6
<b>Abbottabad</b>	28.6	7.1	0.0	64.3	14
<b>Quetta</b>	50.0	25.0	25.0	0.0	12
<b>Islamabad</b>	4.9	29.3	1.2	64.6	82
<b>Total</b>	38.3	31.8	3.2	26.8	822

**Table B7: In general, how would you describe your health before vaping e-cigarettes?**

<b>Districts</b>	<b>Poor</b>	<b>Fair</b>	<b>Good</b>	<b>Very Good</b>	<b>Excellent</b>	<b>Don't Know</b>	<b>Total</b>
<b>Lahore</b>	7.6	7.3	36.2	41.5	6.0	1.3	301
<b>Rawalpindi</b>	53.3	2.6	44.2	0.0	0.0	0.0	77
<b>Multan</b>	0.0	30.8	38.5	23.1	7.7	0.0	13
<b>Sialkot</b>	0.0	0.0	0.0	5.3	94.7	0.0	19
<b>Faisalabad</b>	0.0	22.2	33.3	33.3	11.1	0.0	9
<b>Karachi</b>	2.6	32.7	18.8	21.7	22.1	2.2	272
<b>Hyderabad</b>	0.0	11.8	11.8	47.1	29.4	0.0	17
<b>Peshawar</b>	50.0	0.0	50.0	0.0	0.0	0.0	6
<b>Abbottabad</b>	7.1	7.1	85.7	0.0	0.0	0.0	14
<b>Quetta</b>	50.0	41.7	8.3	0.0	0.0	0.0	12
<b>Islamabad</b>	29.3	3.7	67.1	0.0	0.0	0.0	82
<b>Total</b>	12.8	15.8	33.5	24.2	12.5	1.2	822

**Table B8: In general, how would you describe your health after vaping e-cigarettes?**

<b>Districts</b>	<b>Poor</b>	<b>Fair</b>	<b>Good</b>	<b>Very Good</b>	<b>Excellent</b>	<b>Don't Know</b>	<b>Total</b>
<b>Lahore</b>	4.0	9.6	54.8	24.3	6.3	1.0	301
<b>Rawalpindi</b>	0.0	53.3	42.9	3.9	0.0	0.0	77
<b>Multan</b>	0.0	38.5	46.2	7.7	7.7	0.0	13
<b>Sialkot</b>	0.0	0.0	10.5	21.1	68.4	0.0	19
<b>Faisalabad</b>	0.0	0.0	55.6	44.4	0.0	0.0	9
<b>Karachi</b>	3.3	27.6	27.9	21.0	16.5	3.7	272
<b>Hyderabad</b>	5.9	29.4	35.3	17.7	11.8	0.0	17
<b>Peshawar</b>	16.7	33.3	33.3	0.0	16.7	0.0	6
<b>Abbottabad</b>	0.0	14.3	85.7	0.0	0.0	0.0	14
<b>Quetta</b>	16.7	66.7	8.3	0.0	8.3	0.0	12
<b>Islamabad</b>	0.0	39.0	53.7	7.3	0.0	0.0	82
<b>Total</b>	3.0	24.2	42.8	18.4	10.0	1.6	822

**Table B9: Do you think vaping is associated with diseases such as lung cancer, asthma, or heart disease?**

Districts	Yes	No	Somewhat	Don't know	Total
Lahore	61.1	16.0	19.9	3.0	301
Rawalpindi	13.0	81.8	1.3	3.9	77
Multan	38.5	38.5	15.4	7.7	13
Sialkot	100.0	0.0	0.0	0.0	19
Faisalabad	55.6	11.1	22.2	11.1	9
Karachi	23.5	37.9	34.2	4.4	272
Hyderabad	47.1	29.4	23.5	0.0	17
Peshawar	0.0	66.7	16.7	16.7	6
Abbottabad	28.6	71.4	0.0	0.0	14
Quetta	16.7	33.3	50.0	0.0	12
Islamabad	6.1	82.9	7.3	3.7	82
Total	37.2	37.8	21.3	3.7	822

**Table B10: Do you think vaping is safe to use in pregnancy?**

Districts	Yes	No	Somewhat	Don't Know	Total
Lahore	14.3	53.5	3.0	29.2	301
Rawalpindi	2.6	81.8	1.3	14.3	77
Multan	0.0	84.6	0.0	15.4	13
Sialkot	0.0	94.7	5.3	0.0	19
Faisalabad	11.1	55.6	11.1	22.2	9
Karachi	1.8	52.9	24.6	20.6	272
Hyderabad	0.0	100.0	0.0	0.0	17
Peshawar	0.0	66.7	33.3	0.0	6
Abbottabad	0.0	100.0	0.0	0.0	14
Quetta	0.0	0.0	0.0	100.0	12
Islamabad	1.2	92.7	0.0	6.1	82
Total	6.3	62.4	9.9	21.4	822

**Table B11: What attracts you to the idea of vaping?**

	Lahore	Rawalpindi	Multan	Sialkot	Faisalabad	Karachi	Hyderabad	Peshawar	Abbottabad	Quetta	Islamabad	Total
<b>Less harmful to your health</b>	42.9	54.6	53.9	15.8	55.6	41.2	23.5	33.3	35.7	75.0	63.4	45.0
<b>No Smoke</b>	6.3	18.2	7.7	26.3	0.0	2.2	5.9	0.0	14.3	0.0	14.6	7.3
<b>No risk of secondhand</b>	6.3	0.0	7.7	21.1	11.1	29.4	47.1	33.3	0.0	16.7	0.0	14.2
<b>Fashion and cool</b>	42.2	11.7	30.8	36.8	22.2	26.5	23.5	16.7	21.4	8.3	9.8	29.0
<b>Taste/Flavors</b>	2.3	15.6	0.0	0.0	11.1	0.7	0.0	16.7	28.6	0.0	12.2	4.5
<b>Total</b>	301	77	13	19	9	272	17	6	14	12	82	822

**Table B12: Which of following perceptions about vaping e-cigarettes you agree with?**

Districts	Gateway to smoking for youth		A new ploy of tobacco industry		Less harmful to health of smokers		Gateway to quit smoking		Apprehensive about long-term health effects of e-cigarettes		Total
	Agree	Disagree	Agree	Disagree	Agree	Disagree	Agree	Disagree	Agree	Disagree	
<b>Lahore</b>	38.2	61.8	26.6	73.4	72.8	27.2	65.1	34.9	71.8	28.2	301
<b>Rawalpindi</b>	2.6	97.4	2.6	97.4	98.7	1.3	98.7	1.3	16.9	83.1	77
<b>Multan</b>	69.2	30.8	61.5	38.5	92.3	7.7	69.2	30.8	23.1	76.9	13
<b>Sialkot</b>	52.6	47.4	100.0	0.0	36.8	63.2	36.8	63.2	94.7	5.3	19
<b>Faisalabad</b>	44.4	55.6	0.0	100.0	66.7	33.3	77.8	22.2	66.7	33.3	9
<b>Karachi</b>	12.9	87.1	11.4	88.6	65.1	34.9	75.4	24.6	29.8	70.2	272
<b>Hyderabad</b>	47.1	52.9	41.2	58.8	52.9	47.1	76.5	23.5	70.6	29.4	17
<b>Peshawar</b>	0.0	100.0	16.7	83.3	83.3	16.7	83.3	16.7	16.7	83.3	6
<b>Abbottabad</b>	0.0	100.0	0.0	100.0	71.4	28.6	78.6	21.4	50.0	50.0	14
<b>Quetta</b>	50.0	50.0	50.0	50.0	91.7	8.3	66.7	33.3	25.0	75.0	12

Islamabad	9.8	90.2	7.3	92.7	89.0	11.0	93.9	6.1	22.0	78.1	82
Total	24.0	76.0	19.5	80.5	73.6	26.4	74.7	25.3	46.0	54.0	822

### Knowledge Cross Analysis

**Table B13: Respondents' age**

How did you come to know about vaping?	Respondent Age	18-30	31-40	41-50	>50	Pearson chi2	Probability
	Friend(s)	66.0	55.9	53.9	100.0	19.871	0.019
	Internet	25.2	26.9	15.4	0.0		
	Shop	7.8	12.9	30.8	0.0		
	Relative	1.0	4.3	0.0	0.0		
Did you make more inquiries about vaping after you came to know about it?	Yes	48.3	68.8	69.2	50.0	15.5963	0.001
	No	51.7	31.2	30.8	50.0		
Do you know about levels of nicotine in an e-cigarette?	Yes	56.3	74.2	69.2	50.0	11.532	0.009
	No	43.7	25.8	30.8	50.0		
What is your main source of information about latest models of e-cigarette	E-Cig users /Friend(s)	40.1	25.8	30.8	50.0	18.3182	0.032
	Internet/Online Vendor	32.2	30.1	23.1	0.0		
	Facebook groups	3.4	2.2	0.0	0.0		
	E-Cig outlets	24.4	41.9	46.2	50.0		
In general, how would you describe your health before vaping?	Poor	9.5	33.3	38.5	50.0	66.9451	0.000
	Fair	15.4	19.4	15.4	0.0		
	Good	33.9	31.2	23.1	50.0		
	Very Good	27.0	4.3	15.4	0.0		
	Excellent	12.9	10.8	7.7	0.0		
	Don't know	1.3	1.1	0.0	0.0		
In general, how would you describe your health after vaping?	Poor	3.4	1.1	0.0	0.0	21.4473	0.123
	Fair	22.1	38.7	38.5	0.0		

	Good	43.8	33.3	46.2	100.0		
	Very Good	19.2	12.9	15.4	0.0		
	Excellent	9.8	12.9	0.0	0.0		
	Don't know	1.7	1.1	0.0	0.0		
<b>Do you think vaping is associated with diseases such as lung cancer, COPD, etc.?</b>	Yes	39.6	20.4	23.1	50.0	22.0098	0.009
	No	35.0	55.9	61.5	50.0		
	Somewhat	21.7	19.4	15.4	0.0		
	Don't know	3.6	4.3	0.0	0.0		
<b>Do you think vaping is safe to use in pregnancy?</b>	Yes	6.9	3.2	0.0	0.0	5.9168	0.748
	No	61.9	63.4	76.9	100.0		
	Somewhat	9.8	11.8	0.0	0.0		
	Don't know	21.4	21.5	23.1	0.0		
<b>Total</b>	N	714	93	13	2		

Table B 14: Respondents Education

How did you come to know about vaping?	Respondents Education	Illiterate	Primary	Secondary	Higher Secondary	Graduation	Post-Graduation	Pearson chi2	Probability
	Friend(s)	50	42.86	64.13	70.59	63.97	57.05	42.7706	0.000
	Internet	16.67	14.29	18.48	19.72	27.57	35.9		
	Shop	33.33	42.86	16.3	8.3	7.72	4.49		
	Relative	0	0	1.09	1.38	0.74	2.56		
Did you make more inquiries about vaping after you came to know about it?	Yes	33.3	42.9	40.2	42.6	55.2	66.7	30.645	0.000
	No	66.7	57.1	59.8	57.4	44.9	33.3		
Do you know about levels of nicotine in an e-cigarette?	Yes	83.3	28.6	44.6	52.6	65.4	66.0	24.6556	0.000
	No	16.7	71.4	55.4	47.4	34.6	34.0		
What is your main source of information about latest models of e-cigarette	E-Cig users	16.7	71.4	34.8	49.1	33.5	28.2	52.068	0.000
	/Friend(s)								
	Internet/Online Vendor	16.7	14.3	19.6	26.0	36.8	42.3		
	Facebook groups	0.0	0.0	3.3	2.1	4.8	2.6		
	E-Cig outlets	66.7	14.3	42.4	22.8	25.0	26.9		
In general, how would you describe your health before vaping?	Poor	0.0	14.3	10.9	11.1	11.4	19.9	83.1241	0.000
	Fair	33.3	14.3	17.4	12.8	18.8	14.7		
	Good	16.7	14.3	39.1	26.0	34.2	44.2		
	Very Good	33.3	42.9	15.2	39.5	17.3	12.2		
	Excellent	16.7	14.3	16.3	10.0	16.2	8.3		
	Don't know	0.0	0.0	1.1	0.7	2.2	0.6		

In general, how would you describe your health after vaping?	Poor	0.0	0.0	2.2	3.5	3.7	1.9	31.0703	0.187
	Fair	16.7	57.1	23.9	20.1	23.9	31.4		
	Good	33.3	0.0	52.2	44.6	40.1	41.0		
	Very Good	16.7	28.6	10.9	22.5	17.7	16.0		
	Excellent	33.3	14.3	9.8	8.0	12.9	7.7		
	Don't know	0.0	0.0	1.1	1.4	1.8	1.9		
Do you think vaping is associated with diseases such as lung cancer, COPD,	Yes	33.3	28.6	41.3	44.3	33.1	29.5	33.2889	0.004
	No	66.7	14.3	34.8	35.0	39.0	43.0		
	Somewhat	0.0	28.6	17.4	18.0	24.6	24.4		
	Don't know	0.0	28.6	6.5	2.8	3.3	3.2		
Do you think vaping is safe to use in pregnancy?	Yes	0.0	0.0	5.4	9.0	5.5	3.9	52.6822	0.000
	No	50.0	57.1	71.7	68.9	54.8	59.0		
	Somewhat	50.0	0.0	13.0	8.3	10.7	8.3		
	Don't know	0.0	42.9	9.8	13.8	29.0	28.9		
Total	N	6	7	92	289	272	156		

Table B15: Respondents Residential Area Status

How did you come to know about vaping?	Respondent Residential Area Status	Poor	Middle Class	Upper Middle Class	Rich	Pearson chi2	Probability
	Friend(s)	58.3	61.5	69.8	57.1	37.5285	0.000
	Internet	12.5	23.8	24.8	33.0		
	Shop	29.2	13.4	3.9	8.9		
	Relative	0.0	1.3	1.6	0.9		
Did you make more inquiries about vaping after you came to know about it?	Yes	41.7	51.2	48.6	60.7	5.9769	0.113
	No	58.3	48.8	51.4	39.3		
Do you know about levels of nicotine in an e-cigarette?	Yes	33.3	60.9	54.8	70.5	15.8427	0.001
	No	66.7	39.1	45.2	29.5		

<b>What is your main source of information about latest models of e-cigarette?</b>	E-Cig users /Friend(s)	45.8	29.4	42.9	44.6	20.5097	0.015
	Internet/Online Vendor	20.8	33.8	31.3	30.4		
	Facebook groups	0.0	3.7	2.8	3.6		
	E-Cig outlets	33.3	33.1	23.0	21.4		
<b>In general, how would you describe your health before vaping?</b>	Poor	12.5	15.1	12.4	8.0	57.4534	0.000
	Fair	12.5	13.7	14.0	28.6		
	Good	41.7	32.1	35.9	26.8		
	Very Good	25.0	18.1	30.0	20.5		
	Excellent	4.2	19.1	7.0	16.1		
	Don't know	4.2	2.0	0.8	0.0		
<b>In general, how would you describe your health after vaping?</b>	Poor	8.3	1.7	2.8	6.3	38.1514	0.001
	Fair	25.0	22.7	25.8	22.3		
	Good	33.3	37.5	49.6	35.7		
	Very Good	16.7	22.4	15.0	19.6		
	Excellent	12.5	14.1	5.7	13.4		
	Don't know	4.2	1.7	1.0	2.7		
<b>Do you think vaping is associated with diseases such as lung cancer, COPD,</b>	Yes	25.0	33.1	42.1	33.9	25.223	0.003
	No	20.8	44.5	34.4	35.7		
	Somewhat	41.7	19.1	19.9	27.7		
	Don't know	12.5	3.3	3.6	2.7		
<b>Do you think vaping is safe to use in pregnancy?</b>	Yes	0.0	4.4	7.2	9.8	62.3702	0.000
	No	37.5	67.9	67.4	35.7		
	Somewhat	8.3	8.0	9.3	17.0		
	Don't know	54.2	19.7	16.0	37.5		
<b>Total</b>	N	24	299	387	112		



## Annex C: Attitude

### Attitude Regional Analysis

**Table C1: How would you describe effects of vaping e-cigarettes to smoking cigarettes?**

Districts	Much Addictive	Less Addictive	Slightly Addictive	Less Addictive	Equally Addictive	Slightly More Addictive	Much More Addictive	Total
Lahore	51.2		23.9		9.6	13.0	2.3	301
Rawalpindi	96.1		2.6		0.0	1.3	0.0	77
Multan	53.9		30.8		7.7	7.7	0.0	13
Sialkot	0.0		5.3		63.2	31.6	0.0	19
Faisalabad	22.2		55.6		11.1	11.1	0.0	9
Karachi	40.4		42.3		9.9	6.6	0.7	272
Hyderabad	35.3		11.8		23.5	23.5	5.9	17
Peshawar	83.3		0.0		0.0	16.7	0.0	6
Abbottabad	71.4		14.3		14.3	0.0	0.0	14
Quetta	25.0		66.7		8.3	0.0	0.0	12
Islamabad	84.2		7.3		6.1	2.4	0.0	82
Total	53.5		26.4		10.0	8.9	1.2	822

**Table C2: How would you compare the addiction of vaping to smoking?**

Districts	Much Addictive	Less Addictive	Slightly Addictive	Less Addictive	Equally Addictive	Slightly More Addictive	Much More Addictive	Total
Lahore	43.5		21.6		17.3	15.3	2.3	301
Rawalpindi	84.4		5.2		9.1	1.3	0.0	77
Multan	30.8		46.2		7.7	15.4	0.0	13
Sialkot	0.0		42.1		36.8	21.1	0.0	19
Faisalabad	44.4		22.2		22.2	11.1	0.0	9
Karachi	49.3		32.0		11.8	5.5	1.5	272
Hyderabad	29.4		23.5		29.4	11.8	5.9	17
Peshawar	50.0		50.0		0.0	0.0	0.0	6
Abbottabad	78.6		7.1		14.3	0.0	0.0	14
Quetta	16.7		75.0		8.3	0.0	0.0	12
Islamabad	78.1		4.9		12.2	4.9	0.0	82
Total	51.5		23.5		14.5	9.1	1.5	822

**Table C3: Why do think there is dual use of vaping and smoking?**

	Lahore	Rawalpindi	Multan	Sialkot	Faisalabad	Karachi	Hyderabad	Peshawar	Abbottabad	Quetta	Islamabad	Total
<b>Indecisiveness</b>	31.6	20.8	15.4	42.1	22.2	16.2	17.7	0.0	7.1	75.0	9.8	227.8
<b>Vaping fails to satisfy nicotine level</b>	26.9	16.9	7.7	52.6	33.3	16.2	5.9	0.0	21.4	16.7	18.3	215.0
<b>Dual use gives more options</b>	24.3	23.4	15.4	0.0	44.4	19.1	11.8	50.0	21.4	0.0	24.4	213.5
<b>Addiction</b>	15.0	23.4	61.5	5.3	0.0	47.1	58.8	33.3	50.0	8.3	29.3	296.8
<b>Peer Pressure</b>	1.7	15.6	0.0	0.0	0.0	1.5	5.9	16.7	0.0	0.0	18.3	46.2
<b>Don't know</b>	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.24
<b>Total</b>	301	77	13	19	9	272	17	6	14	12	82	822

**Table C4: Do you think vaping makes young people “fit in”, feel “cool” and become socially more acceptable?**

Districts	Strongly	Disagree	Undecided	Agree	Strongly	Total
<b>Lahore</b>	2.7	10.3	9.0	53.5	24.6	301
<b>Rawalpindi</b>	1.3	45.5	7.8	42.9	2.6	77
<b>Multan</b>	0.0	23.1	7.7	38.5	30.8	13
<b>Sialkot</b>	5.3	94.7	0.0	0.0	0.0	19
<b>Faisalabad</b>	11.1	11.1	0.0	33.3	44.4	9
<b>Karachi</b>	4.8	14.7	6.3	47.8	26.5	272
<b>Hyderabad</b>	5.9	5.9	0.0	11.8	76.5	17
<b>Peshawar</b>	0.0	33.3	0.0	33.3	33.3	6
<b>Abbottabad</b>	0.0	35.7	0.0	57.1	7.1	14
<b>Quetta</b>	0.0	50.0	8.3	33.3	8.3	12
<b>Islamabad</b>	0.0	28.1	8.5	63.4	0.0	82
<b>Total</b>	3.0	20.1	7.2	48.7	21.1	822

**Table C5: There is no risk of SHS associated with vaping**

Districts	Strongly	Disagree	Undecided	Agree	Strongly	Total
Lahore	7.3	26.6	11.3	46.2	8.6	301
Rawalpindi	0.0	2.6	0.0	97.4	0.0	77
Multan	0.0	15.4	15.4	38.5	30.8	13
Sialkot	0.0	100.0	0.0	0.0	0.0	19
Faisalabad	22.2	33.3	11.1	11.1	22.2	9
Karachi	5.5	19.5	9.6	41.9	23.5	272
Hyderabad	0.0	5.9	11.8	35.3	47.1	17
Peshawar	0.0	33.3	0.0	16.7	50.0	6
Abbottabad	0.0	0.0	21.4	78.6	0.0	14
Quetta	0.0	8.3	0.0	83.3	8.3	12
Islamabad	0.0	11.0	3.7	85.4	0.0	82
Total	4.7	20.9	8.6	52.6	13.1	822

**Table C6: Do you think vaping can be done in places where cigarettes are banned?**

Districts	Strongly	Disagree	Undecided	Agree	Strongly	Total
Lahore	6.3	10.3	8.3	57.5	17.6	301
Rawalpindi	0.0	15.6	0.0	84.4	0.0	77
Multan	0.0	38.5	15.4	46.2	0.0	13
Sialkot	0.0	89.5	5.3	0.0	5.3	19
Faisalabad	0.0	44.4	33.3	11.1	11.1	9
Karachi	5.5	14.7	11.0	55.2	13.6	272
Hyderabad	0.0	29.4	17.7	35.3	17.7	17
Peshawar	0.0	16.7	0.0	83.3	0.0	6
Abbottabad	0.0	28.6	0.0	71.4	0.0	14
Quetta	0.0	25.0	16.7	58.3	0.0	12
Islamabad	0.0	20.7	3.7	75.6	0.0	82
Total	4.1	16.9	8.4	59.0	11.6	822

**Table C7: Vaping can help in reducing smoking.**

Districts	Strongly	Disagree	Undecided	Agree	Strongly	Total
Lahore	11.0	17.6	7.6	49.5	14.3	301
Rawalpindi	0.0	1.3	0.0	97.4	1.3	77
Multan	0.0	15.4	15.4	69.2	0.0	13
Sialkot	15.8	63.2	0.0	21.1	0.0	19
Faisalabad	0.0	11.1	11.1	55.6	22.2	9
Karachi	3.3	9.6	9.2	51.8	26.1	272
Hyderabad	5.9	11.8	0.0	47.1	35.3	17
Peshawar	0.0	16.7	0.0	50.0	33.3	6

Abbottabad	0.0	0.0	28.6	71.4	0.0	14
Quetta	0.0	25.0	0.0	75.0	0.0	12
Islamabad	0.0	6.1	1.2	92.7	0.0	82
Total	5.6	12.9	6.8	59.5	15.2	822

**Table C8: Vaping can help in quitting smoking**

Districts	Strongly	Disagree	Undecided	Agree	Strongly	Total
Lahore	13.0	15.0	8.0	48.8	15.3	301
Rawalpindi	0.0	1.3	0.0	97.4	1.3	77
Multan	7.7	15.4	15.4	46.2	15.4	13
Sialkot	15.8	42.1	5.3	36.8	0.0	19
Faisalabad	0.0	11.1	11.1	55.6	22.2	9
Karachi	1.8	9.2	4.0	51.5	33.5	272
Hyderabad	5.9	5.9	5.9	35.3	47.1	17
Peshawar	0.0	16.7	0.0	50.0	33.3	6
Abbottabad	0.0	0.0	28.6	71.4	0.0	14
Quetta	8.3	16.7	0.0	75.0	0.0	12
Islamabad	0.0	6.1	1.2	92.7	0.0	82
Total	6.1	11.1	5.5	58.9	18.5	822

**Table C9: You allow people to vape in your home/car?**

Districts	Strongly	Disagree	Undecided	Agree	Strongly	Total
Lahore	8.3	47.8	16.0	18.9	9.0	301
Rawalpindi	0.0	45.5	3.9	50.7	0.0	77
Multan	23.1	15.4	15.4	15.4	30.8	13
Sialkot	21.1	79.0	0.0	0.0	0.0	19
Faisalabad	0.0	33.3	11.1	33.3	22.2	9
Karachi	6.3	28.3	16.5	39.7	9.2	272
Hyderabad	5.9	58.8	11.8	17.7	5.9	17
Peshawar	0.0	50.0	0.0	33.3	16.7	6
Abbottabad	0.0	28.6	21.4	42.9	7.1	14
Quetta	8.3	50.0	33.3	8.3	0.0	12
Islamabad	2.4	52.4	7.3	36.6	1.2	82
Total	6.5	41.6	13.9	30.5	7.5	822

**Table C10: Vaping e-cigarettes should be regulated like other tobacco products.**

Districts	Strongly	Disagree	Undecided	Agree	Strongly	Total
Lahore	2.3	12.3	7.3	53.8	24.3	301
Rawalpindi	0.0	6.5	0.0	93.5	0.0	77

<b>Multan</b>	7.7	23.1	7.7	46.2	15.4	13
<b>Sialkot</b>	5.3	36.8	5.3	15.8	36.8	19
<b>Faisalabad</b>	0.0	11.1	0.0	66.7	22.2	9
<b>Karachi</b>	4.4	18.0	15.4	50.4	11.8	272
<b>Hyderabad</b>	5.9	29.4	5.9	41.2	17.7	17
<b>Peshawar</b>	0.0	33.3	0.0	66.7	0.0	6
<b>Abbottabad</b>	0.0	14.3	0.0	85.7	0.0	14
<b>Quetta</b>	8.3	66.7	8.3	16.7	0.0	12
<b>Islamabad</b>	0.0	7.3	0.0	92.7	0.0	82
<b>Total</b>	2.8	15.2	8.3	59.3	14.5	822

**Table C11: Vaping e-cigarettes should be regulated at work and public places.**

<b>Districts</b>	<b>Strongly</b>	<b>Disagree</b>	<b>Undecided</b>	<b>Agree</b>	<b>Strongly</b>	<b>Total</b>
<b>Lahore</b>	2.3	31.2	6.3	26.3	33.9	301
<b>Rawalpindi</b>	0.0	11.7	1.3	87.0	0.0	77
<b>Multan</b>	15.4	23.1	23.1	15.4	23.1	13
<b>Sialkot</b>	0.0	10.5	0.0	36.8	52.6	19
<b>Faisalabad</b>	0.0	0.0	0.0	77.8	22.2	9
<b>Karachi</b>	3.7	16.2	6.3	44.1	29.8	272
<b>Hyderabad</b>	11.8	29.4	5.9	35.3	17.7	17
<b>Peshawar</b>	0.0	50.0	0.0	50.0	0.0	6
<b>Abbottabad</b>	0.0	0.0	0.0	100.0	0.0	14
<b>Quetta</b>	0.0	58.3	0.0	33.3	8.3	12
<b>Islamabad</b>	0.0	11.0	0.0	86.6	2.4	82
<b>Total</b>	2.6	21.4	5.0	46.2	24.8	822

**Table C12: Do you think vaping e-cigarettes is addictive?**

<b>Districts</b>	<b>Yes</b>	<b>No</b>	<b>Somewhat</b>	<b>Don't know</b>	<b>Total</b>
<b>Lahore</b>	65.1	14.3	19.9	0.7	301
<b>Rawalpindi</b>	11.7	85.7	2.6	0.0	77
<b>Multan</b>	38.5	38.5	23.1	0.0	13
<b>Sialkot</b>	94.7	5.3	0.0	0.0	19
<b>Faisalabad</b>	33.3	33.3	33.3	0.0	9
<b>Karachi</b>	23.9	27.9	44.5	3.7	272
<b>Hyderabad</b>	41.2	17.7	41.2	0.0	17
<b>Peshawar</b>	16.7	83.3	0.0	0.0	6
<b>Abbottabad</b>	21.4	78.6	0.0	0.0	14
<b>Quetta</b>	16.7	8.3	75.0	0.0	12
<b>Islamabad</b>	12.2	76.8	11.0	0.0	82
<b>Total</b>	38.8	33.7	26.0	1.5	822

## Attitude Cross Analysis

Table C13: Respondents Age and Attitude

	Respondents Age	18-30	31-40	41-50	>50	Pearson chi2	Probability
<b>How would you describe effects of vaping e-cigarettes to smoking cigarettes?</b>	Much less addictive	52.8	59.1	53.9	50.0	14.0741	0.296
	Slightly less addictive	26.3	28.0	23.1	0.0		
	Equally addictive	9.8	9.7	23.1	0.0		
	Slightly more addictive	9.7	3.2	0.0	50.0		
	Much more addictive	1.4	0.0	0.0	0.0		
<b>How would you describe the addiction of vaping e-cigarettes to smoking cigarettes?</b>	Much less addictive	50.7	54.8	69.2	50.0	9.9413	0.621
	Slightly less addictive	23.5	24.7	15.4	0.0		
	Equally addictive	14.2	16.1	15.4	50.0		
	Slightly more addictive	10.1	3.2	0.0	0.0		
	Much more addictive	1.5	1.1	0.0	0.0		
<b>Do you think vaping e-cigarettes makes young people “fit in”, feel “cool” and become socially more acceptable?</b>	Strongly Disagree	3.1	3.2	0.0	0.0	55.0306	0.000
	Disagree	16.7	40.9	61.5	0.0		
	Undecided	7.1	7.5	0.0	50.0		
	Agree	51.4	33.3	7.7	50.0		
	Strongly agree	21.7	15.1	30.8	0.0		
<b>There is no risk of SHS associated with vaping.</b>	Strongly Disagree	5.3	1.1	0.0	0.0	15.0875	0.237
	Disagree	21.4	16.1	30.8	0.0		
	Undecided	9.0	5.4	7.7	50.0		
	Agree	51.0	65.6	46.2	50.0		
	Strongly agree	13.3	11.8	15.4	0.0		
<b>Vaping can be done in places where cigarettes are banned.</b>	Strongly Disagree	3.9	5.4	7.7	0.0	7.6145	0.814
	Disagree	16.5	18.3	30.8	0.0		
	Undecided	9.0	4.3	7.7	0.0		
	Agree	58.8	60.2	53.9	100.0		
	Strongly agree	11.8	11.8	0.0	0.0		

<b>Vaping makes it easier to cut down on the number of cigarettes that I smoke.</b>	Strongly Disagree	6.0	3.2	0.0	0.0	8.2447	0.766
	Disagree	13.3	9.7	15.4	0.0		
	Undecided	7.3	3.2	7.7	0.0		
	Agree	58.0	69.9	61.5	100.0		
	Strongly agree	15.4	14.0	15.4	0.0		
<b>Vaping e-cigarettes may help me quit combustible smoking.</b>	Strongly Disagree	6.3	5.4	0.0	0.0	5.7661	0.927
	Disagree	11.5	9.7	0.0	0.0		
	Undecided	5.3	6.5	7.7	0.0		
	Agree	58.0	62.4	76.9	100.0		
	Strongly agree	18.9	16.1	15.4	0.0		
<b>I allow people to vape in my home/car.</b>	Strongly Disagree	6.4	4.3	15.4	50.0	14.6682	0.260
	Disagree	42.0	40.9	23.1	50.0		
	Undecided	14.4	10.8	7.7	0.0		
	Agree	30.1	33.3	38.5	0.0		
	Strongly agree	7.0	10.8	15.4	0.0		
<b>Vaping should be regulated like other tobacco products.</b>	Strongly Disagree	3.1	1.1	0.0	0.0	11.7305	0.468
	Disagree	14.4	23.7	0.0	0.0		
	Undecided	8.7	5.4	7.7	0.0		
	Agree	59.4	55.9	69.2	100.0		
	Strongly agree	14.4	14.0	23.1	0.0		
<b>Vaping should be regulated in work and public places</b>	Strongly Disagree	2.9	0.0	0.0	0.0	16.609	0.165
	Disagree	22.3	17.2	7.7	0.0		
	Undecided	5.0	4.3	7.7	0.0		
	Agree	43.8	60.2	69.2	100.0		
	Strongly agree	25.9	18.3	15.4	0.0		
<b>Do you think vaping is addictive?</b>	Yes	41.3	21.5	23.1	50.0	22.5933	0.007
	No	31.0	51.6	53.9	50.0		
	Somewhat	26.3	24.7	23.1	0.0		
	Don't know	1.4	2.2	0.0	0.0		

Table C14: Respondents Education and Attitude

	Respondents Education	Illiterate	Primary	Secondary	Higher Secondary	Graduation	Post-Graduation	Pearson chi2	Probability
How would you describe effects of vaping e-cigarettes to smoking cigarettes?	Much less addictive	33.3	28.6	52.2	64.0	45.2	51.3	38.0328	0.009
	Slightly less addictive	33.3	28.6	20.7	23.9	30.9	26.3		
	Equally addictive	16.7	14.3	15.2	6.6	11.0	10.9		
	Slightly more addictive	16.7	28.6	12.0	4.2	11.8	9.6		
	Much more addictive	0.0	0.0	0.0	1.4	1.1	1.9	48.1613	0.000
How would you describe the addiction of vaping e-cigarettes to smoking cigarettes?	Much less addictive	16.7	42.9	51.1	63.7	43.0	45.5		
	Slightly less addictive	16.7	14.3	21.7	20.4	26.8	25.0		
	Equally addictive	50.0	42.9	16.3	6.9	18.0	18.6		
	Slightly more addictive	16.7	0.0	9.8	8.0	9.6	10.3		
	Much more addictive	0.0	0.0	1.1	1.0	2.6	0.6		
Do you think vaping makes young people “fit in”, feel “cool” and become socially more acceptable?	Strongly Disagree	0.0	0.0	2.2	2.8	4.4	1.9	53.2966	0.000
	Disagree	0.0	71.4	26.1	13.5	17.7	31.4		
	Undecided	0.0	0.0	4.4	6.6	7.7	9.6		
	Agree	50.0	0.0	50.0	56.1	44.9	43.0		
	Strongly Agree	50.0	28.6	17.4	21.1	25.4	14.1		



	agree								
<b>There is no risk of SHS associated with vaping.</b>	Strongly	0.0	0.0	3.3	3.5	7.0	4.5	63.8637	0.000
	Disagree								
	Disagree	0.0	57.1	30.4	10.4	25.7	25.6		
	Undecided	0.0	14.3	6.5	7.6	11.8	6.4		
	Agree	83.3	14.3	48.9	64.4	40.1	55.1		
	Strongly	16.7	14.3	10.9	14.2	15.4	8.3		
	agree								
<b>Vaping can be done in places where cigarettes are banned</b>	Strongly	0.0	0.0	0.0	2.4	7.0	5.1	67.5448	0.000
	Disagree								
	Disagree	16.7	42.9	32.6	12.5	17.3	14.1		
	Undecided	33.3	28.6	14.1	5.9	9.9	5.1		
	Agree	50.0	14.3	41.3	68.9	51.8	66.0		
	Strongly	0.0	14.3	12.0	10.4	14.0	9.6		
	agree								
<b>Vaping makes it easier to cut down on the number of cigarettes that I smoke.</b>	Strongly	0.0	0.0	5.4	3.5	7.0	7.7	49.3484	0.000
	Disagree								
	Disagree	0.0	28.6	18.5	7.6	15.4	14.7		
	Undecided	16.7	28.6	8.7	8.0	5.9	3.9		
	Agree	33.3	42.9	59.8	65.7	51.5	63.5		
	Strongly	50.0	0.0	7.6	15.2	20.2	10.3		
	agree								
<b>Vaping e-cigarettes may help me quit combustible smoking.</b>	Strongly	0.0	0.0	5.4	2.4	9.2	8.3	58.3164	0.000
	Disagree								
	Disagree	16.7	14.3	16.3	6.9	12.1	13.5		
	Undecided	16.7	42.9	8.7	5.2	5.2	2.6		
	Agree	16.7	42.9	56.5	65.7	52.9	60.3		
	Strongly	50.0	0.0	13.0	19.7	20.6	15.4		
	agree								
<b>I allow people to</b>	Strongly	0.0	28.6	7.6	4.2	8.5	5.8	58.0219	0.000

vape in my home/car.	Disagree								
	Disagree	50.0	14.3	42.4	54.3	34.6	30.8		
	Undecided	16.7	0.0	13.0	11.1	15.1	18.0		
	Agree	16.7	14.3	32.6	24.9	33.8	35.3		
	Strongly agree	16.7	42.9	4.4	5.5	8.1	10.3		
Vaping should be regulated like other tobacco products.	Strongly Disagree	16.7	14.3	1.1	3.1	2.6	2.6	56.7327	0.000
	Disagree	0.0	14.3	23.9	13.2	18.8	8.3		
	Undecided	16.7	14.3	13.0	5.9	10.3	5.8		
	Agree	50.0	42.9	51.1	69.2	48.5	65.4		
	Strongly agree	16.7	14.3	10.9	8.7	19.9	18.0		
Vaping should be regulated at work and public places	Strongly Disagree	0.0	28.6	2.2	3.5	2.6	0.0	97.8405	0.000
	Disagree	0.0	0.0	17.4	36.0	12.9	13.5		
	Undecided	16.7	14.3	9.8	3.8	4.8	3.9		
	Agree	50.0	57.1	50.0	38.8	48.5	53.2		
	Strongly agree	33.3	0.0	20.7	18.0	31.3	29.5		
Do you think vaping is addictive?	Yes	16.7	42.9	40.2	48.1	33.5	30.8	29.5968	0.013
	No	33.3	28.6	40.2	25.6	35.3	42.3		
	Somewhat	50.0	28.6	18.5	24.9	30.2	24.4		
	Don't know	0.0	0.0	1.1	1.4	1.1	2.6		

**Table C15: Respondents Residential Area Status**

Respondents	Residential	Area	Poor	Middle	Upper	Rich	Pearson	Probabilit
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	Status		Class	middle	Class	chi2	y
<b>How would you describe effects of vaping e-cigarettes to smoking cigarettes?</b>	Much less addictive	41.7	45.8	62.0	47.3	30.058	0.003
	Slightly less addictive	25.0	28.1	24.0	30.4		
	Equally addictive	16.7	14.1	6.2	10.7		
	Slightly more addictive	16.7	10.0	7.0	10.7		
	Much more addictive	0.0	2.0	0.8	0.9	20.4518	0.059
<b>How would you describe the addiction of vaping e-cigarettes to smoking cigarettes?</b>	Much less addictive	50.0	48.5	57.4	39.3		
	Slightly less addictive	25.0	24.4	19.9	33.0		
	Equally addictive	25.0	15.4	12.4	17.0		
	Slightly more addictive	0.0	9.7	9.3	8.9		
	Much more addictive	0.0	2.0	1.0	1.8		
<b>Do you think vaping makes young people “fit in”, feel “cool” and become socially more acceptable?</b>	Strongly Disagree	0.0	2.3	2.3	8.0	49.2331	0.000
	Disagree	33.3	25.4	16.0	17.0		
	Undecided	4.2	8.7	7.0	4.5		
	Agree	29.2	39.1	58.7	43.8		
	Strongly agree	33.3	24.4	16.0	26.8		
<b>There is no risk of SHS associated with vaping.</b>	Strongly Disagree	4.2	5.7	3.9	5.4	38.2663	0.000
	Disagree	20.8	23.8	16.3	29.5		
	Undecided	8.3	8.0	7.5	14.3		
	Agree	54.2	44.8	62.5	38.4		
	Strongly agree	12.5	17.7	9.8	12.5		
<b>Vaping can be done in places where cigarettes are banned.</b>	Strongly Disagree	4.2	3.7	3.6	7.1	42.0299	0.000
	Disagree	20.8	23.4	12.4	14.3		
	Undecided	25.0	8.7	6.5	10.7		
	Agree	37.5	52.5	68.0	50.0		
	Strongly agree	12.5	11.7	9.6	17.9		
<b>Vaping makes it easier to cut down on the number of cigarettes</b>	Strongly Disagree	8.33	6.02	4.39	8.04	37.2597	0.000
	Disagree	16.67	17.73	9.56	10.71		
	Undecided	16.67	6.69	6.2	7.14		

<b>that I smoke.</b>	Agree	45.83	55.85	66.93	46.43		
	Strongly agree	12.5	13.71	12.92	27.68		
<b>Vaping may help me quit combustible smoking.</b>	Strongly Disagree	8.3	6.4	4.1	11.6	66.4389	0.000
	Disagree	12.5	14.4	9.6	7.1		
	Undecided	25.0	5.7	3.9	6.3		
	Agree	45.8	56.9	66.9	39.3		
	Strongly agree	8.3	16.7	15.5	35.7		
<b>I allow people to vape in my home/car.</b>	Strongly Disagree	8.3	7.4	4.7	9.8	75.0389	0.000
	Disagree	25.0	44.8	47.0	17.9		
	Undecided	4.2	13.7	14.7	13.4		
	Agree	45.8	27.4	30.2	36.6		
	Strongly agree	16.7	6.7	3.4	22.3		
<b>Vaping should be regulated like other tobacco products.</b>	Strongly Disagree	4.2	1.7	3.4	3.6	17.313	0.138
	Disagree	8.3	15.7	15.0	16.1		
	Undecided	16.7	8.0	8.0	8.0		
	Agree	45.8	59.9	62.3	50.0		
	Strongly agree	25.0	14.7	11.4	22.3		
<b>Vaping should be regulated at work and public places</b>	Strongly Disagree	8.3	2.3	3.1	0.0	103.1693	0.000
	Disagree	4.2	10.7	32.8	14.3		
	Undecided	20.8	4.0	4.9	4.5		
	Agree	50.0	54.2	42.6	36.6		
	Strongly agree	16.7	28.8	16.5	44.6		
<b>Do you think vaping is addictive?</b>	Yes	29.2	33.8	43.2	39.3	13.3468	0.148
	No	50.0	37.8	30.2	31.3		
	Somewhat	16.7	27.4	25.3	26.8		
	Don't know	4.2	1.0	1.3	2.7		

## Annex D: Practice

### Summary Statistics of Practice

Table D1: Summary Statistics

Indicators	Categories	Proportion estimation (%)	Std. Err.	[95% Conf. Interval]		N
<b>Do you currently vape daily or less than daily?</b>	Daily	54.0	0.017	50.6	57.4	444
	Less than daily	46.0	0.017	42.6	49.4	378
<b>For how many month/years have you used e-cigarettes?</b>	Less than six months	33.5	0.016	30.3	36.8	275
	One year	27.3	0.016	24.3	30.4	224
	Two years	21.8	0.014	19.1	24.7	179
	Three years	9.5	0.010	7.7	11.7	78
	More than three years	8.0	0.009	6.4	10.1	66
<b>What was the main reason for vaping?</b>	Harm reduction	20.7	0.014	18.0	23.6	170
	Quit combustible smoking	19.1	0.014	16.6	21.9	157
	To look cool	48.7	0.017	45.2	52.1	400
	Just for the sake of experience	11.6	0.011	9.5	13.9	95
<b>Did you discuss vaping e with the doctor?</b>	Yes	9.1	0.010	7.3	11.3	75
	No	90.9	0.010	88.7	92.7	747
<b>If yes, what was the doctor advice?</b>	Supported the decision to start e-cigarettes	50.7	0.058	39.3	62.0	38
	Advised caution in using e-cigarettes	34.7	0.055	24.6	46.3	26
	Doctor did not know about e-cigarettes	14.7	0.041	8.2	24.9	11
<b>How do you decide about the level of nicotine in your e-cigarette?</b>	Depends on amount of vaping	21.3	0.014	18.6	24.2	175
	The recommendation of vaping vendor	24.0	0.015	21.2	27.0	197
	Internet for information on nicotine	2.8	0.006	1.9	4.2	23
	DIY	49.5	0.017	46.1	52.9	407
	On the recommendation of friends	2.4	0.005	1.6	3.7	20
<b>Which other Safer Nicotine Delivery Systems you have used?</b>	Snus	3.4	0.006	2.4	4.9	28
	IQOS	3.9	0.007	2.8	5.5	32
	Juul	15.7	0.013	13.4	18.3	129

<b>How do you react to negative news regarding vaping in Pakistan and in rest of the world?</b>	Nicotine gum and patches	5.0	0.008	3.7	6.7	41
	None	72.0	0.016	68.8	75.0	592
	Ignore such news	59.1	0.017	55.7	62.4	486
	Read the carefully	19.5	0.014	16.9	22.3	160
	Think about my use of HRP	7.7	0.009	6.0	9.7	63
	Volume of vaping is reduced	5.7	0.008	4.3	7.5	47
	Never seen such news	2.3	0.005	1.5	3.6	19
	Fake news	4.1	0.007	3.0	5.7	34
	Did more Research	1.6	0.004	0.9	2.7	13

## Practice Regional Analysis

**Table D2: How many cigarettes did you smoke daily before started vaping?**

Districts	Less than One Packet	One Packet	Two Packets	More than Two Packets	Total
Lahore	66.2	25.6	7.7	0.4	234
Rawalpindi	31.7	35.0	23.3	10.0	60
Multan	50.0	37.5	12.5	0.0	8
Sialkot	52.6	42.1	5.3	0.0	19
Faisalabad	100.0	0.0	0.0	0.0	4
Karachi	59.5	27.5	12.2	0.8	131
Hyderabad	60.0	20.0	20.0	0.0	5
Peshawar	33.3	0.0	66.7	0.0	3
Abbottabad	60.0	40.0	0.0	0.0	5
Quetta	16.7	83.3	0.0	0.0	6
Islamabad	54.2	35.6	10.2	0.0	59
Total	58.1	29.4	11.1	1.5	534

**Table D3: How would you describe your status after switching to vaping?**

Districts	Reduced Smoking	Gave up (quit) Smoking	Restarted Smoking after Vaping	Continued Smoking and Vaping	Total
Lahore	52.1	11.5	8.1	28.2	234
Rawalpindi	10.0	86.7	0.0	3.3	60
Multan	62.5	0.0	0.0	37.5	8
Sialkot	21.1	57.9	21.1	0.0	19
Faisalabad	75.0	0.0	0.0	25.0	4
Karachi	32.8	11.5	19.1	36.6	131
Hyderabad	40.0	0.0	0.0	60.0	5
Peshawar	0.0	100.0	0.0	0.0	3
Abbottabad	0.0	60.0	0.0	40.0	5
Quetta	66.7	0.0	16.7	16.7	6
Islamabad	20.3	61.0	0.0	18.6	59
<b>Total</b>	37.6	27.5	9.2	25.7	534



**Table D4: Do you currently vape daily or less than daily?**

Districts	Daily	Less than Daily	Total
Lahore	50.5	49.5	301
Rawalpindi	84.4	15.6	77
Multan	53.9	46.2	13
Sialkot	0.0	100.0	19
Faisalabad	22.2	77.8	9
Karachi	48.2	51.8	272
Hyderabad	17.7	82.4	17
Peshawar	50.0	50.0	6
Abbottabad	50.0	50.0	14
Quetta	41.7	58.3	12
Islamabad	84.2	15.9	82
Total	54.0	46.0	822

**Table D5: For how many months/ years you have been using e-cigarettes?**

Districts	Less than six months	One year	Two years	Three years	More than three years	Total
Lahore	54.5	26.3	11.3	3.0	5.0	301
Rawalpindi	13.0	24.7	29.9	15.6	16.9	77
Multan	38.5	30.8	15.4	7.7	7.7	13
Sialkot	5.3	0.0	10.5	68.4	15.8	19
Faisalabad	66.7	22.2	11.1	0.0	0.0	9
Karachi	19.9	30.5	29.8	11.8	8.1	272
Hyderabad	29.4	29.4	29.4	11.8	0.0	17
Peshawar	16.7	16.7	16.7	16.7	33.3	6
Abbottabad	64.3	0.0	14.3	0.0	21.4	14
Quetta	0.0	33.3	41.7	25.0	0.0	12
Islamabad	24.4	32.9	28.1	6.1	8.5	82
Total	33.5	27.3	21.8	9.5	8.0	822

**Table D6: What was the main reason for vaping?**

Districts	Harm reduction	Quit smoking	combustible To look Just for the sake of Total		
Lahore	30.2	10.6	47.8	11.3	301
Rawalpindi	9.1	68.8	13.0	9.1	77

<b>Multan</b>	46.2	0.0	46.2	7.7	13
<b>Sialkot</b>	0.0	0.0	94.7	5.3	19
<b>Faisalabad</b>	22.2	11.1	66.7	0.0	9
<b>Karachi</b>	21.3	5.2	65.8	7.7	272
<b>Hyderabad</b>	11.8	5.9	64.7	17.7	17
<b>Peshawar</b>	0.0	50.0	50.0	0.0	6
<b>Abbottabad</b>	7.1	14.3	28.6	50.0	14
<b>Quetta</b>	16.7	33.3	50.0	0.0	12
<b>Islamabad</b>	1.2	57.3	15.9	25.6	82
<b>Total</b>	20.7	19.1	48.7	11.6	822

**Table D7: Did you ever consult vaping with the doctor?**

<b>Districts</b>	<b>Yes</b>	<b>No</b>	<b>Total</b>
<b>Lahore</b>	6.0	94.0	301
<b>Rawalpindi</b>	5.2	94.8	77
<b>Multan</b>	0.0	100.0	13
<b>Sialkot</b>	0.0	100.0	19
<b>Faisalabad</b>	0.0	100.0	9
<b>Karachi</b>	16.2	83.8	272
<b>Hyderabad</b>	5.9	94.1	17
<b>Peshawar</b>	50.0	50.0	6
<b>Abbottabad</b>	0.0	100.0	14
<b>Quetta</b>	0.0	100.0	12
<b>Islamabad</b>	6.1	93.9	82
<b>Total</b>	9.1	90.9	822

**Table D8: If yes, what was the doctor advice?**

<b>Districts</b>	<b>Supported</b>	<b>Advised Caution</b>	<b>Doctor did not Know about Vaping</b>	<b>Total</b>
<b>Lahore</b>	77.8	16.7	5.6	18
<b>Rawalpindi</b>	100.0	0.0	0.0	4
<b>Karachi</b>	31.8	50.0	18.2	44
<b>Hyderabad</b>	0.0	0.0	100.0	1
<b>Peshawar</b>	66.7	0.0	33.3	3
<b>Islamabad</b>	80.0	20.0	0.0	5
<b>Total</b>	50.7	34.7	14.7	75

**Table D9: How many times did you try to quit smoking?**

Districts	Once	Twice	Between 2 to 5 times	More than five	Never tried to quit	Total
Lahore	38.5	11.1	5.6	17.5	27.4	301
Rawalpindi	6.7	8.3	1.7	55.0	28.3	77
Multan	12.5	0.0	12.5	12.5	62.5	13
Sialkot	10.5	10.5	0.0	79.0	0.0	19
Faisalabad	0.0	0.0	25.0	0.0	75.0	9
Karachi	15.3	16.8	13.0	17.6	37.4	272
Hyderabad	0.0	20.0	20.0	40.0	20.0	17
Peshawar	0.0	0.0	33.3	33.3	33.3	6
Abbottabad	20.0	0.0	0.0	40.0	40.0	14
Quetta	0.0	16.7	33.3	50.0	0.0	12
Islamabad	13.6	6.8	1.7	40.7	37.3	82
Total	23.6	11.4	7.1	27.2	30.7	822

**Table D10: Which were the reasons your attempt(s) to quit smoking failed?**

	Lahore	Rawalpindi	Multan	Sialkot	Faisalabad	Karachi	Hyderabad	Peshawar	Abbottabad	Quetta	Islamabad	Total
<b>Chosen quitting method(s) /were not suitable</b>	15.3	11.6	33.3	15.8	0.0	25.6	50.0	50.0	33.3	33.3	10.8	17.8
<b>Chosen or product(s) were not suitable</b>	7.1	0.0	0.0	5.3	100.0	17.1	0.0	0.0	0.0	0.0	0.0	7.6
<b>Chosen quitting method(s) or product(s) was/were too expensive</b>	2.9	0.0	0.0	10.5	0.0	1.2	0.0	0.0	0.0	0.0	0.0	2.2
<b>Not motivated enough</b>	62.9	55.8	66.7	68.4	0.0	28.1	50.0	0.0	66.7	33.3	56.8	53.0
<b>Peer pressure</b>	4.1	4.7	0.0	0.0	0.0	28.1	0.0	0.0	0.0	16.7	13.5	10.3
<b>Lack of Medical Help</b>	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	16.7	0.0	0.5
<b>Addiction</b>	7.1	27.9	0.0	0.0	0.0	0.0	0.0	50.0	0.0	0.0	18.9	8.7
<b>Total</b>	170	43	3	19	1	82	4	2	3	6	37	370

**Table D11: Would you recommend vaping e-cigarettes as a tool to quit or cut down on smoking?**

Districts	Yes	No	Total
Lahore	48.5	51.5	301
Rawalpindi	96.1	3.9	77
Multan	69.2	30.8	13
Sialkot	21.1	79.0	19
Faisalabad	77.8	22.2	9
Karachi	57.0	43.0	272
Hyderabad	88.2	11.8	17
Peshawar	83.3	16.7	6
Abbottabad	64.3	35.7	14
Quetta	66.7	33.3	12
Islamabad	92.7	7.3	82
Total	61.8	38.2	822

**Table D12: How much your expenses increased with the use of e-cigarettes compared to combustible cigarettes?**

Districts	Up to 25%	Up to 50%	Up to 75%	Up to 100%	More than 100%	No increase	Total
Lahore	50.9	20.9	6.4	0.9	0.0	20.9	234
Rawalpindi	0.0	21.7	18.3	1.7	0.0	58.3	60
Multan	37.5	37.5	0.0	25.0	0.0	0.0	8
Sialkot	26.3	68.4	0.0	0.0	0.0	5.3	19
Faisalabad	75.0	0.0	0.0	0.0	0.0	25.0	4
Karachi	49.6	28.2	7.6	0.8	3.1	10.7	131
Hyderabad	60.0	20.0	0.0	20.0	0.0	0.0	5
Peshawar	33.3	33.3	0.0	0.0	0.0	33.3	3
Abbottabad	0.0	20.0	40.0	0.0	20.0	20.0	5
Quetta	50.0	50.0	0.0	0.0	0.0	0.0	6
Islamabad	1.7	32.2	25.4	3.4	0.0	37.3	59
Total	38.0	26.2	9.9	1.7	0.9	23.2	534

**Table D13: Which other Safer Nicotine Delivery Systems you have used?**

Districts	Snus	IQOS	Juul	Nicotine gum and patches	None	Total
Lahore	3.0	2.0	14.0	2.7	78.4	301
Rawalpindi	0.0	0.0	0.0	20.8	79.2	77
Multan	0.0	0.0	0.0	0.0	100.0	13

<b>Sialkot</b>	0.0	0.0	0.0	0.0	100.0	19
<b>Faisalabad</b>	0.0	0.0	0.0	0.0	100.0	9
<b>Karachi</b>	5.5	9.6	32.0	0.7	52.2	272
<b>Hyderabad</b>	0.0	0.0	0.0	0.0	100.0	17
<b>Peshawar</b>	0.0	0.0	0.0	33.3	66.7	6
<b>Abbottabad</b>	0.0	0.0	0.0	14.3	85.7	14
<b>Quetta</b>	33.3	0.0	0.0	8.3	58.3	12
<b>Islamabad</b>	0.0	0.0	0.0	12.2	87.8	82
<b>Total</b>	3.4	3.9	15.7	5.0	72.0	822

Table D14: How do you decide about the level of nicotine in your e-cigarette?

Districts	Depends on Amount of Vaping	Recommendation of Vaping Vendor	From the Information on Internet	DIY	On the Recommendation of Friends	Total
Lahore	41.5	23.6	2.7	29.2	3.0	301
Rawalpindi	0.0	9.1	0.0	90.9	0.0	77
Multan	0.0	69.2	0.0	15.4	15.4	13
Sialkot	0.0	0.0	5.3	94.7	0.0	19
Faisalabad	33.3	0.0	22.2	22.2	22.2	9
Karachi	16.5	30.9	2.6	47.8	2.2	272
Hyderabad	5.9	35.3	0.0	58.8	0.0	17
Peshawar	0.0	83.3	0.0	16.7	0.0	6
Abbottabad	0.0	14.3	0.0	78.6	7.1	14
Quetta	8.3	8.3	41.7	41.7	0.0	12
Islamabad	0.0	14.6	0.0	85.4	0.0	82
Total	21.3	24.0	2.8	49.5	2.4	822

Table D15: How do you react to negative news regarding vaping in Pakistan and in rest of the world?

Districts	Ignore News	Such	Read them Carefully	Think about My Use of HRP	Reduce Vaping	Never Seen Such News	Fake News	Did More Research	Total
Lahore	62.1		26.9	6.3	2.0	1.0	1.3	0.3	301
Rawalpindi	57.1		6.5	3.9	0.0	3.9	24.7	3.9	77
Multan	53.9		38.5	7.7	0.0	0.0	0.0	0.0	13
Sialkot	0.0		0.0	31.6	68.4	0.0	0.0	0.0	19
Faisalabad	33.3		66.7	0.0	0.0	0.0	0.0	0.0	9
Karachi	61.8		16.2	8.5	10.3	2.9	0.0	0.4	272

Hyderabad	70.6	11.8	11.8	0.0	5.9	0.0	0.0	17
Peshawar	33.3	16.7	16.7	0.0	16.7	16.7	0.0	6
Abbottabad	71.4	14.3	0.0	0.0	7.1	7.1	0.0	14
Quetta	33.3	16.7	50.0	0.0	0.0	0.0	0.0	12
Islamabad	59.8	14.6	2.4	0.0	2.4	11.0	9.8	82
Total	59.1	19.5	7.7	5.7	2.3	4.1	1.6	822

### Practice Cross Analysis

Table D16: Respondents' age and Practice

Respondent Age		18-30	31-40	41-50	>50	Pearson chi2	Probability
How many cigarettes did you smoke daily before initiating vaping?	Less than one packet	63.2	25.0	40.0	100.0	60.9983	0.000
	One packet	26.0	52.9	30.0	0.0		
	Two packets	9.9	19.1	10.0	0.0		
	More than two packets	0.9	2.9	20.0	0.0		
How would you describe your status after switching to vaping?	Reduced combustible smoking	39.7	25.0	20.0	100.0	25.3718	0.003
	Gave up (quit) combustible smoking	24.0	47.1	60.0	0.0		
	Restarted smoking after vaping	9.9	5.9	0.0	0.0		
	Continued smoking and vaping	26.4	22.1	20.0	0.0		
Do you currently vape daily or less than daily?	Daily	52.1	67.7	53.9	100.0	9.8111	0.020
	Less than Daily	47.9	32.3	46.2	0.0		
For how many month/years have you used e-	Less than six months	36.0	18.3	0.0	50.0	77.1507	0.000
	One year	28.9	15.1	23.1	50.0		
	Two years	21.0	26.9	30.8	0.0		



cigarettes?	Three years	8.1	21.5	0.0	0.0		
	More than three years	6.0	18.3	46.2	0.0		
What was the main reason for vaping?	Harm Reduction	21.2	17.2	23.1	0.0	61.2516	0.000
	Quit combustible smoking	15.1	45.2	46.2	50.0		
	To look cool	52.2	25.8	15.4	50.0		
	Just for the sake of	11.5	11.8	15.4	0.0		
How many times did you try to quit smoking?	Once	26.4	7.4	0.0	50.0	46.7633	0.000
	Twice	12.1	7.4	0.0	50.0		
	Between 2 to 5 times	5.7	16.2	10.0	0.0		
	More than five times	23.6	45.6	70.0	0.0		
	Never tried to quit	32.2	23.5	20.0	0.0		
How do you decide about the level of nicotine in your e-cigarette?	Depends on amount of vaping	23.3	9.7	0.0	0.0	24.2022	0.019
	On the recommendation of Vaping vendor	24.8	18.3	15.4	50.0		
	Use internet for information on nicotine level	2.4	5.4	7.7	0.0		
	DIY	47.2	64.5	69.2	50.0		
	On the recommendation of friends and relative	2.4	2.2	7.7	0.0		
Which other Safer Nicotine Delivery Systems you have used?	Snus	3.5	3.2	0.0	0.0	19.8038	0.071
	IQOS	3.9	3.2	7.7	0.0		
	Juul	16.3	11.8	15.4	0.0		
	Nicotine gum and patches	3.8	12.9	15.4	0.0		
	None	72.6	68.8	61.5	100.0		
How do you react to negative news regarding vaping in Pakistan and in rest of world?	Ignore such news	62.2	37.6	38.5	100.0	63.8611	0.000
	Read the carefully	18.5	28.0	15.4	0.0		
	Think about my use of HRP	7.6	9.7	0.0	0.0		
	Volume of vaping is reduced	5.7	5.4	7.7	0.0		
	Never seen such news	2.2	2.2	7.7	0.0		
	Fake news	2.8	12.9	15.4	0.0		
	Did more Research	1.0	4.3	15.4	0.0		

Table D17: Respondents Education and Practice

Respondents Education		Illiterate	Primary	Secondary	Higher Secondary	Graduation	Post-Graduation	Pearson chi2	Probability
How many cigarettes did you smoke daily before initiating vaping?	Less than one packet	0.0	40.0	61.5	72.0	54.1	40.2	42.5866	0.000
	One packet	75.0	40.0	26.2	18.8	34.9	39.2		
	Two packets	25.0	20.0	10.8	9.1	9.3	16.7		
	More than two packets	0.0	0.0	1.5	0.0	1.7	3.9		
How would you describe your status after switching to vaping?	Reduced combustible smoking	25.0	40.0	32.3	55.9	25.6	28.4	51.483	0.000
	Gave up (quit) combustible smoking	25.0	0.0	33.9	21.0	29.1	34.3		
	Restarted smoking after vaping	0.0	0.0	10.8	7.5	11.1	8.8		
	Continued smoking and vaping	50.0	60.0	23.1	15.6	34.3	28.4		
Do you currently vape daily or less than daily?	Daily	50.0	57.1	37.0	67.1	45.2	55.1	39.3983	0.000
	Less than Daily	50.0	42.9	63.0	32.9	54.8	44.9		
For how many month/years have you used e-cigarettes?	Less than six months	0.0	57.1	30.4	45.0	27.9	23.7	53.441	0.000
	One year	33.3	0.0	22.8	24.6	31.3	28.9		
	Two years	16.7	14.3	20.7	19.0	23.5	25.0		
	Three years	33.3	0.0	16.3	6.6	7.7	13.5		
	More than three years	16.7	28.6	9.8	4.8	9.6	9.0		
What was the main reason for vaping?	Harm Reduction	33.3	28.6	13.0	32.2	13.6	15.4	56.6854	0.000
	Quit combustible smoking	16.7	0.0	20.7	15.2	18.4	27.6		
	To look cool	16.7	42.9	56.5	44.6	54.8	42.3		
	Just for the sake of	33.3	28.6	9.8	8.0	13.2	14.7		

<b>How many times did you try to quit smoking?</b>	Once	0.0	0.0	15.4	45.7	9.3	14.7	93.8206	0.000
	Twice	25.0	0.0	12.3	10.2	15.1	6.9		
	Between 2 to 5 times	0.0	0.0	6.2	5.4	8.7	8.8		
	More than five times	50.0	20.0	35.4	17.7	28.5	36.3		
	Never tried to quit	25.0	80.0	30.8	21.0	38.4	33.3		
<b>How do you decide about the level of nicotine in your e-cigarette?</b>	Depends on amount of vaping	0.0	14.3	14.1	30.5	17.3	16.7	50.6374	0.000
	On the recommendation of Vaping vendor	50.0	42.9	25.0	26.3	21.3	21.8		
	Use internet for information on nicotine level	0.0	14.3	2.2	2.1	1.8	5.8		
	DIY	50.0	14.3	56.5	38.8	57.0	53.9		
	On the recommendation of friends and relative	0.0	14.3	2.2	2.4	2.6	1.9		
<b>Which other Safer Nicotine Delivery Systems you have used?</b>	Snus	0.0	0.0	1.1	1.4	4.4	7.1	28.6899	0.094
	IQOS	0.0	0.0	2.2	4.8	3.7	3.9		
	Juul	33.3	14.3	13.0	12.1	20.6	14.7		
	Nicotine gum and patches	0.0	0.0	3.3	5.5	4.0	7.1		
	None	66.7	85.7	80.4	76.1	67.3	67.3		
<b>How do you react to negative news regarding vaping in Pakistan and in rest of world?</b>	Ignore such news	66.7	57.1	54.4	69.9	55.2	48.7	50.5218	0.011
	Read the carefully	16.7	14.3	17.4	14.2	22.1	26.3		
	Think about my use of HRP	0.0	28.6	8.7	6.6	8.8	6.4		
	Volume of vaping is reduced	0.0	0.0	12.0	3.5	6.3	5.8		
	Never seen such news	0.0	0.0	3.3	1.4	3.3	1.9		
	Fake news	16.7	0.0	3.3	2.8	3.7	7.7		
	Did more Research	0.0	0.0	1.1	1.7	0.7	3.2		

Table D18: Respondents Residential Area Status and Practice

	Respondents Residential Area Status	Poor	Middle Class	Upper Class	Middle	Rich	Pearson chi2	Probabilit y
How many cigarettes did you smoke daily before started vaping?	Less than one packet	58.8	51.9	65.0		47.8	24.1157	0.004
	One packet	11.8	35.3	25.5		32.8		
	Two packets	29.4	11.2	7.6		19.4		
	More than two packets	0.0	1.6	1.9		0.0		
How would you describe your status after switching to vaping?	Reduced combustible smoking	5.9	26.7	47.9		35.8	38.7503	0.000
	Gave up (quit) combustible smoking	41.2	35.8	22.4		20.9		
	Restarted smoking after vaping	0.0	11.2	8.4		9.0		
	Continued smoking and vaping	52.9	26.2	21.3		34.3		
Do you currently vape daily or less than daily?	Daily	41.7	44.2	60.0		62.5	21.9262	0.000
	Less than Daily	58.3	55.9	40.1		37.5		
For how many month/years have you used e-	Less than six months	50.0	29.8	37.2		26.8	20.7828	0.054
	One year	16.7	27.8	27.4		27.7		

cigarettes?	Two years	20.8	24.4	20.4	19.6		
	Three years	4.2	11.4	6.5	16.1		
	More than three years	8.3	6.7	8.5	9.8		
What was the main reason for vaping?	Harm Reduction	12.5	11.4	25.8	29.5	34.9395	0.000
	Quit combustible smoking	20.8	21.1	19.4	12.5		
	To look cool	41.7	54.5	44.4	49.1		
	Just for the sake of	25.0	13.0	10.3	8.9		
How many times did you try to quit smoking?	Once	5.9	11.2	37.3	9.0	70.1859	0.000
	Twice	11.8	12.8	7.2	23.9		
	Between 2 to 5 times	0.0	7.0	8.0	6.0		
	More than five times	41.2	35.3	19.4	31.3		
	Never tried to quit	41.2	33.7	28.1	29.9		
How do you decide about the level of nicotine in your e-cigarette?	Depends on amount of vaping	4.2	15.7	27.1	19.6	47.5246	0.000
	On the recommendation of Vaping vendor	29.2	18.1	26.1	31.3		
	Use internet for information on nicotine level	4.2	3.0	2.8	1.8		
	DIY	50.0	59.5	42.9	45.5		

	On the recommendation of friends and relative	12.5	3.7	1.0	1.8		
<b>Which other Safer Nicotine Delivery Systems you have used?</b>	Snus	0.0	3.0	3.6	4.5	90.5811	0.000
	IQOS	4.2	2.3	3.1	10.7		
	Juul	8.3	9.7	13.7	40.2		
	Nicotine gum and patches	0.0	5.4	6.2	0.9		
	None	87.5	79.6	73.4	43.8		
<b>How do you react to negative news regarding vaping in Pakistan and in rest of world</b>	Ignore such news	45.8	53.2	65.6	55.4	48.8608	0.000
	Read the carefully	25.0	22.1	17.3	18.8		
	Think about my use of HRP	8.3	8.4	5.7	12.5		
	Volume of vaping is reduced	4.2	6.0	3.6	12.5		
	Never seen such news	4.2	3.3	1.8	0.9		
	Fake news	4.2	6.4	3.6	0.0		
	Did more Research	8.3	0.7	2.3	0.0		