



THE IMPACT OF CIGARETTE PRICE INCREASE ON SMOKING BEHAVIOR

A Study on Cigarette Price Disparities
and Bootlegging in Pakistan

Research conducted by:



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**The Impact of Cigarette Price Increase on Smoking Behavior & Patterns:
A Study on Cigarette Price Disparities and Bootlegging in Pakistan**

A Research on Changes in Smoking Behavior in Response to Cigarette Price Increase commissioned by Umeed-e-Sehar

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ABSTRACT

This study investigates the effects of a substantial cigarette tax increase triggering a price increase on smoking behavior in Pakistan. Using a mixed-method approach, the study combines quantitative analysis and qualitative insights gathered from a sample of **1,698 smokers** out of a total sample size of **2,000 individuals**, along with a survey of 60 retailer shops in cities including Mardan, Hyderabad, Multan, Faisalabad, Sahiwal & Gujranwala. The last significant change in federal excise duty (FED) on cigarettes, a **154%** hike in February 2023, has resulted in a significant change observed in smoking consumption patterns.

INTRODUCTION

Cigarette smoking poses a significant public health challenge globally, with far-reaching implications for people's health, mortality rates, and healthcare spending. In Pakistan, the widespread availability of tax-evaded low-cost cigarettes has undermined the government's intent to reduce smoking rates in Pakistan and has a substantial impact on the government revenue and economy. While increasing cigarette prices is seen as an effective way to decrease tobacco consumption in many parts of the world & in Pakistan. However, this theory has failed primarily due to the wide presence of cheap illicit cigarettes which are easily and widely available. Rather than witnessing a reduction in smoking consumption, unfortunately, due to lack of enforcement, excise increases have resulted in unintended consequences by shifting cigarette consumption from the formal sector to the informal tax-evading sector.

This research, conducted by Umeed-e-Sehar, aims to evaluate the impact of a cigarette price increase on 14th February 2023 and a change in smoking behavior in Pakistan. The focus is on changes in smoking rates, brand-switching patterns, and the significant increase in the sale of tax-evaded cigarettes, which undermines the government's objectives in public health and long-term tax collection strategy.

Umeed-e-Sehar is a non-profit organization committed to promoting public health

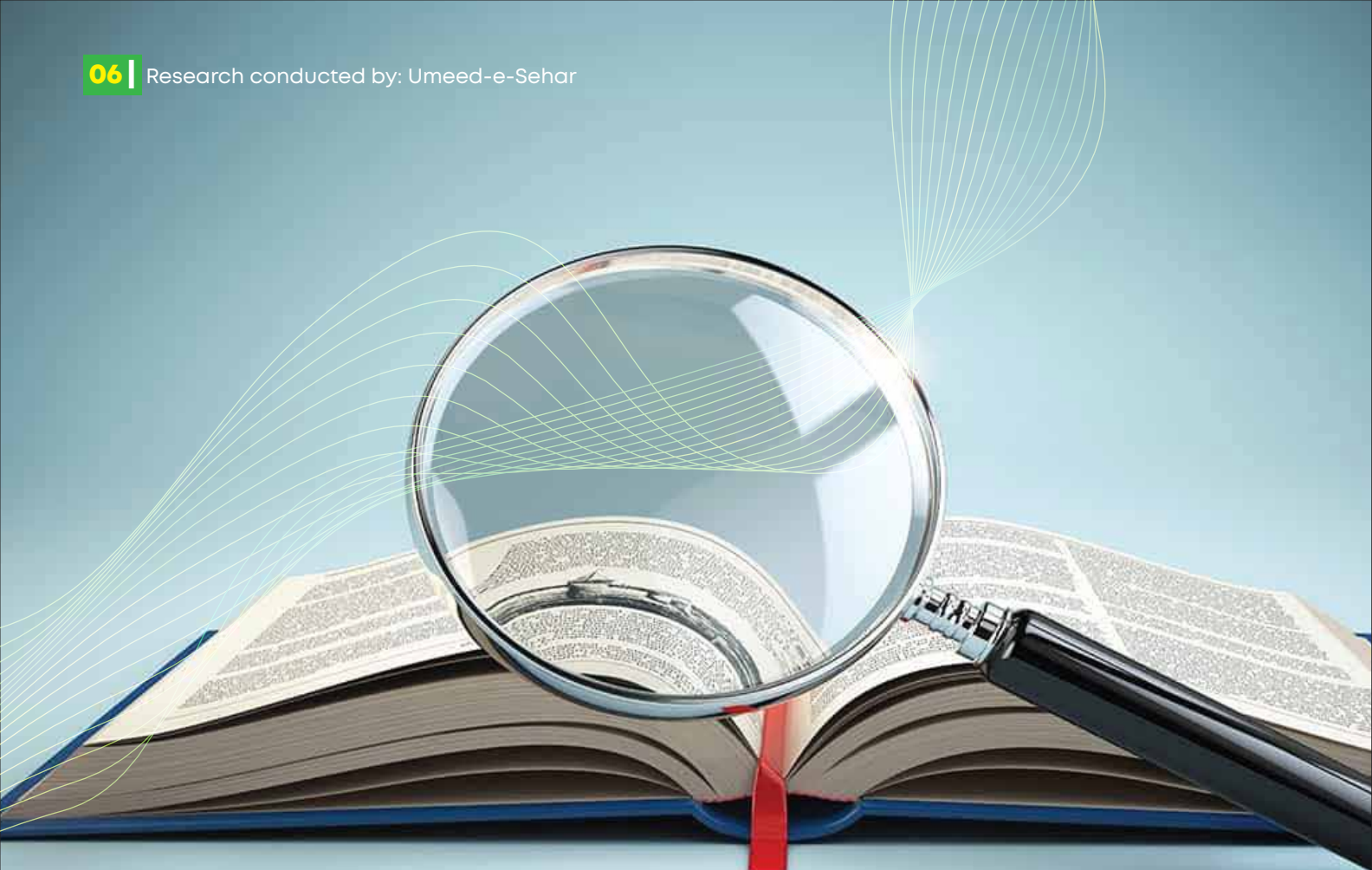
initiatives and improving the well-being of communities across Pakistan. With a focus on tobacco control and smoking cessation, the organization strives to raise awareness, advocate for evidence-based policies, and support individuals in quitting smoking. Through research and advocacy efforts, Umeed-e-Sehar seeks to address the challenges posed by tobacco use and the cheap availability of illegal cigarettes across the country.

This study aims to understand how a recent increase in cigarette prices has affected people's smoking habits in Pakistan. It focuses on whether people have tried to quit smoking, how they've changed the brands they smoke, and the growing problem of illegal trade in tobacco products. By exploring these aspects, the research aims to provide insights into how pricing policies, consumer choices, and regulatory frameworks interact, helping policymakers and health experts develop more effective strategies to reduce smoking in Pakistan.

This study is driven by the critical necessity to explore the factors that shape smoking patterns in Pakistan, especially given recent efforts to tackle cigarette consumption. By examining the reasons behind smokers' decisions, such as the appeal of cheaper cigarettes and the challenges in regulating the cigarette market, this research aims to provide practical insights that can inform policies and actions aimed at combating the illegal cigarette trade in Pakistan.



TAX



LITERATURE REVIEW

Various research studies have consistently highlighted a noticeable relationship between the cost of cigarettes and the prevalence of smoking behaviors. Typically, when the prices of cigarettes increase, there is an expected corresponding decrease in the frequency of smoking and an uptake in attempts to quit among individuals.

However, in Pakistan, the impact of such price fluctuations on smoking habits is considerably nuanced and influenced by a multitude of factors. These factors encompass a wide array of socio-economic dynamics, including disparities in income levels, the effectiveness of existing tobacco control measures, and the accessibility of cheap tax-evaded, and more affordable cigarette options.

Moreover, studies have underscored the significant role played by disparities in cigarette pricing in guiding consumer choices toward cheaper, untaxed cigarette brands. This phenomenon not only undermines the effectiveness of strategies focused solely on manipulating prices to deter smoking but also worsens challenges associated with the proliferation of illegal trade and contraband distribution in the tobacco market. Thus, understanding the complex interplay between pricing strategies, consumer preferences, and regulatory frameworks is crucial for devising comprehensive approaches to tobacco control measures tailored to the specific socio-economic landscape of Pakistan.

METHODOLOGY

Sampling

A convenience sampling method was used to gather data from a diverse pool of participants. The target total sample size was 2,000 individuals, consisting of 1698 smokers and 206 non-smokers. However, 96 individuals refused to participate in the study. The sampling process focused on individuals above the age of 18 who were smokers. This approach allowed for the inclusion of a broad range of participants, enabling a comprehensive analysis of smoking behaviors and attitudes within the specified demographic. Moreover, 60 retailers, comprising 30 pan shops and 30 general stores from across the country, were also surveyed.

Data Collection

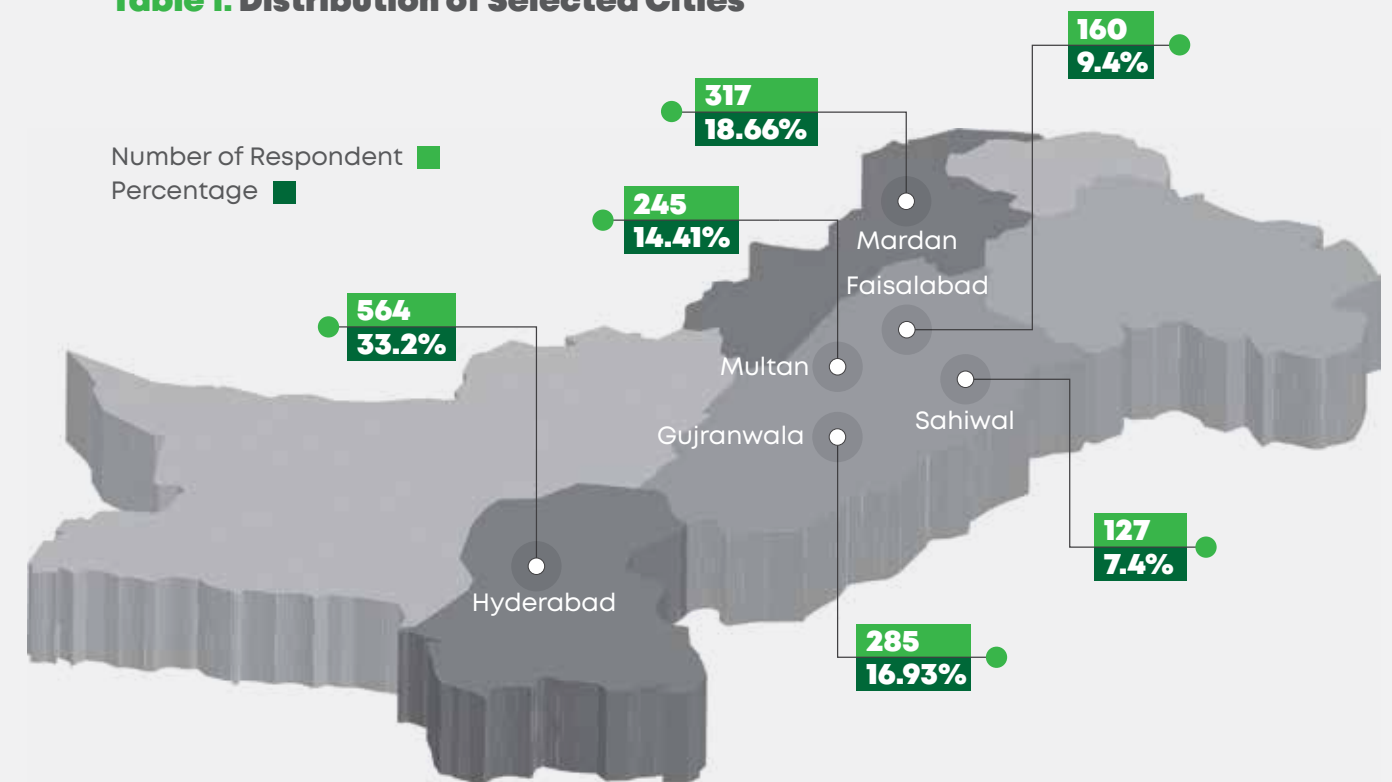
Data collection involved structured surveys to assess smoking habits, motivations for quitting, and brand preferences before and after the price increase. In-depth interviews

were conducted with a subset of participants to explore qualitative perspectives on their experiences and perceptions regarding the price surge. Additionally, insights from retailer surveys provided valuable perspectives on consumer behaviors and market dynamics in response to the tax hike.

Selection of Cities

The study targeted participants from various cities across Pakistan to ensure geographical diversity and representation. Specifically, data collection efforts were concentrated in the cities including Mardan, Hyderabad, Multan, Faisalabad, Sahiwal, and Gujranwala. These cities were chosen for their high population densities, regional significance, and demographic diversity, aiming to capture a comprehensive understanding of smoking behaviors and trends across different urban settings in Pakistan.

Table 1. Distribution of Selected Cities



Data Analysis

For the quantitative analysis, descriptive statistics were employed to delve into the frequencies and percentages, providing insights into the various patterns and trends prevalent in smoking behavior and brand preferences among the participants. This statistical examination aimed to uncover the distribution of responses and highlight any notable disparities within the dataset. Additionally, statistical tests, such as chi-square tests and t-tests, were conducted to rigorously evaluate the significance of observed differences, thereby enhancing the robustness of the analysis and ensuring the reliability of the findings.

Findings

This section presents the findings from the analysis of the full database:

Key Findings of Collected Data from Smokers and Retailers

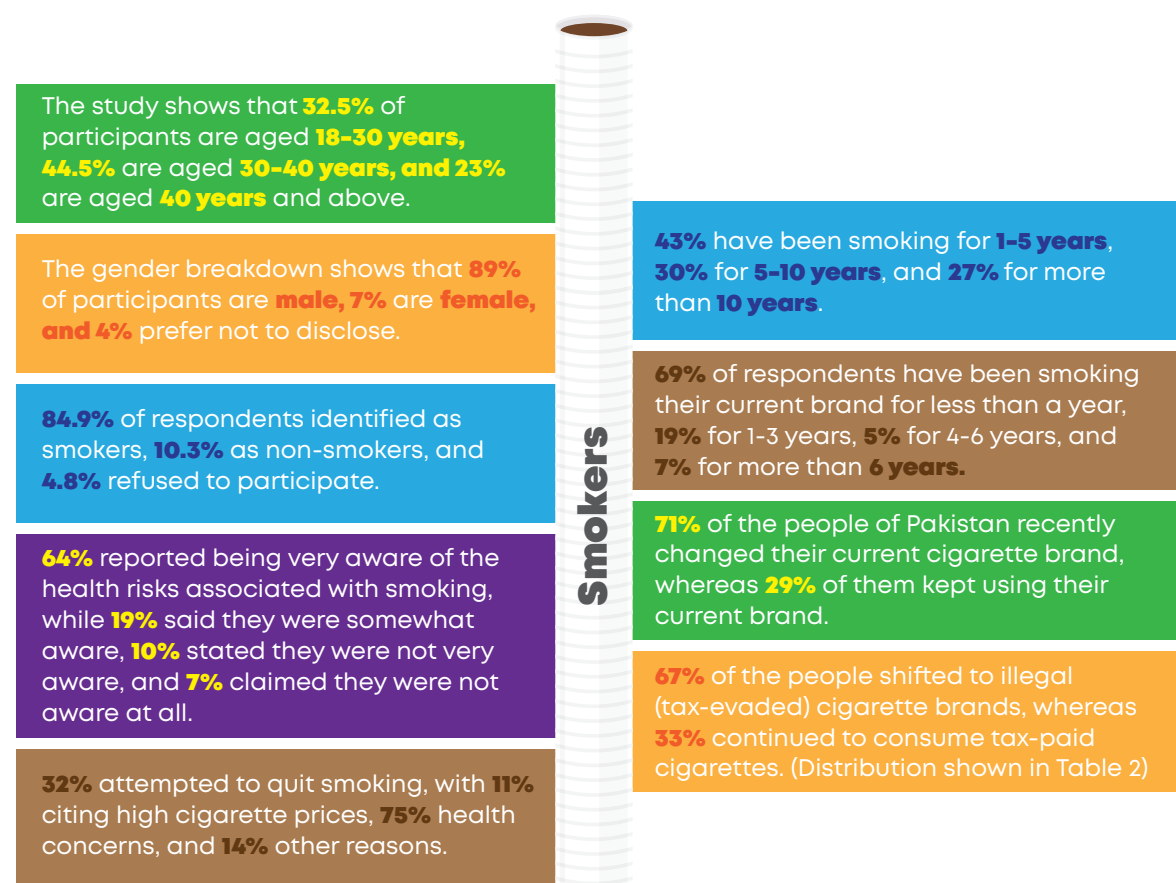


Table 2. Sales of Cigarettes Brands

Brands	Number of response	Price of Packs	Tax Stamps	GHW	Frequency	Percentage
Tax Paid						
Dunhill	66	600	✓	✓	3.38%	33%
Marlboro	57	500	✓	✓	3.35%	
Gold Leaf	79	500	✓	✓	4.64%	
Morven	65	220	✓	✓	3.82%	
Gold Flake	61	220	✓	✓	3.59%	
Red & White	74	220	✓	✓	4.87%	
Capstan	159	220	✓	✓	9.35%	
Non-Tax Paid						
Kisan	365	100	✗	✓	21.47%	67%
Milano	210	130	✗	✗	12.35%	
Pine	146	120	✗	✗	8.58%	
Olympic	115	60	✗	✓	6.76%	
Bridge	128	70	✗	✓	7.52%	
Honda	110	60	✗	✓	6.47%	
Hero	65	100	✗	✓	3.85%	

- **65%** of respondents cited price as the primary factor prompting them to change their cigarette brand, followed by brand preference at **18%**, taste at **12%**, and availability at **5%**.
- The FED increase has caused variations in the price distribution of cigarette brands, leading the majority of respondents to opt for cheaper tax-evaded illicit cigarette brands, **62.4%** of respondents reported using brands priced between **80 and 120 rupees**. (Table 3)

Table 3. Prices Range of Current Cigarette Brands in Use

Rupees	Frequency	Percentage
80-120	1059	62.4%
120-200	229	13.5%
200-250	138	8.1%
250-350	102	6%
350-550	136	8%
550+	34	2%
Total	1698	100%

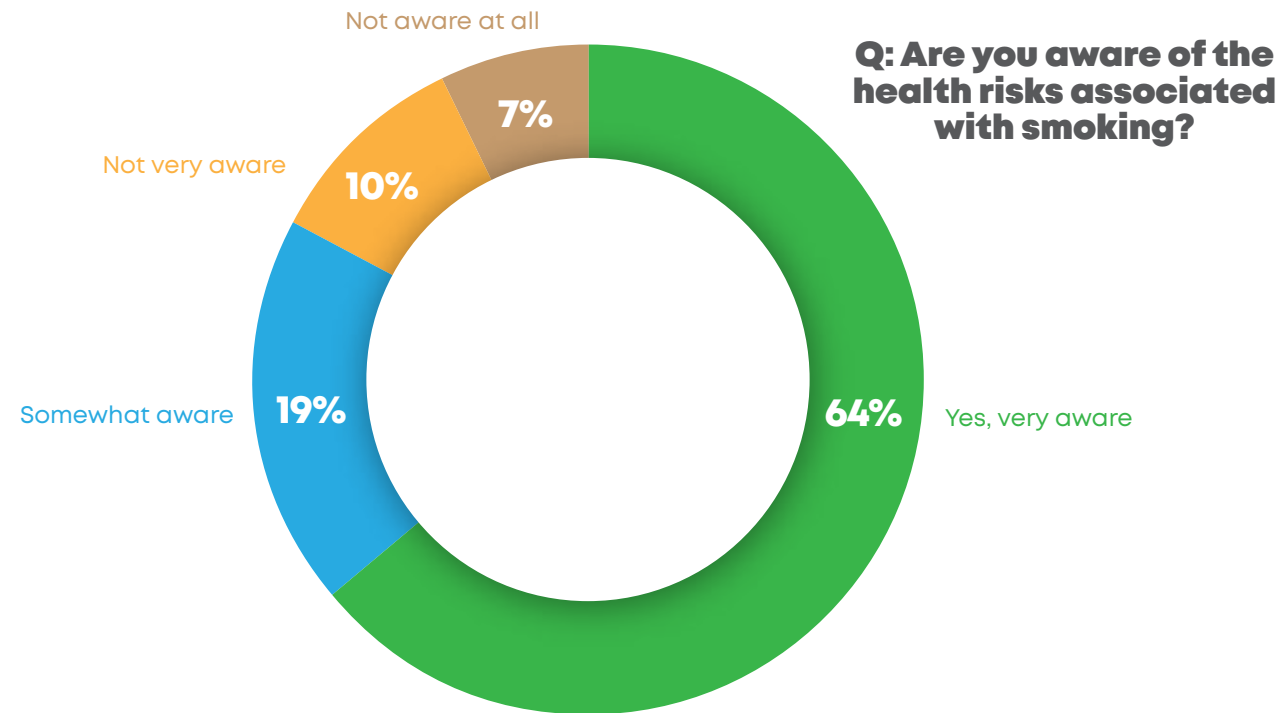
- **83.5%** of respondents confirm tax stamps/stickers/tickets on their cigarette packs, while **16.5%** report their absence.
- **78%** acknowledge picture health warnings on their cigarette packs, with **22%** stating their absence.
- **11%** reported reduced consumption post-price increase, with **89%** noting no change. Among those who did not reduce consumption, **80%** shifted to cheaper brands, while **20%** did not provide a reason for their decision.

Retailers

- According to retailers, **87%** believe that the substantial tax increase on cigarettes has resulted in increased sales of cheap non-tax-paid cigarettes. Conversely, **10%** disagree with this notion, and **3%** are unsure.
- **01%** of retailers are aware of the minimum legal cigarette price set by the government, while only a small **99%** minority are not.
- Retailers report that **83%** experienced no change in earnings through cigarette sales, while **17%** saw growth in sales.

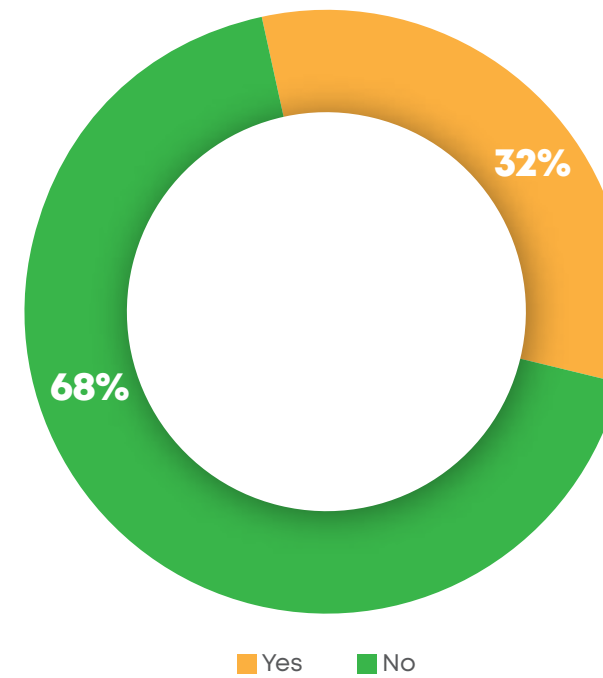
KEY TAKE-AWAYS

Smokers

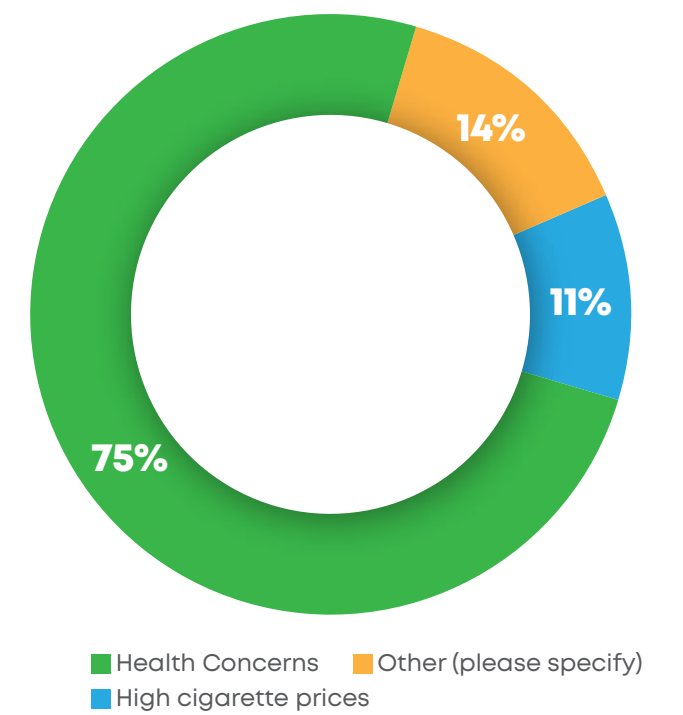


83% of smokers are aware or somewhat aware of the health risks associated with smoking which is a fairly high level of awareness of smoking-related risks and diseases.

Q: Have you attempted to quit smoking altogether?

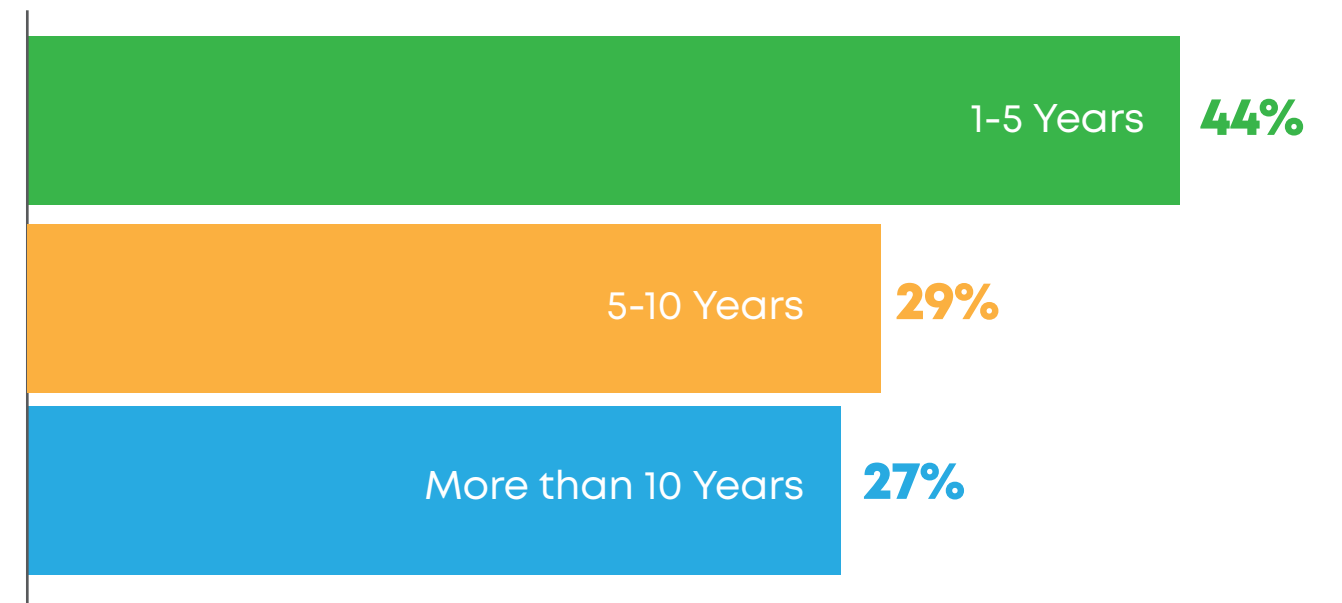


Q: What motivated you to attempt to quit smoking?



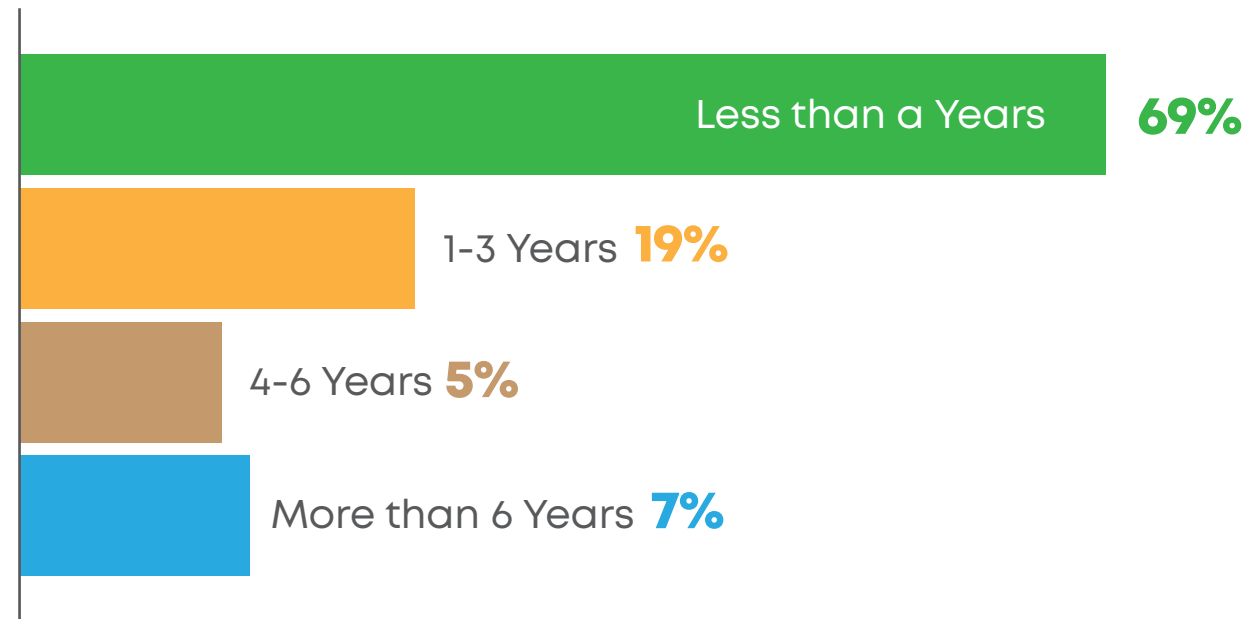
Despite a fairly high level of awareness as demonstrated above, only **543** smokers out of **1698** smokers attempted to quit smoking amongst which **75%** cited health concerns as a reason while only **11%** due to high cigarette prices. Amongst other concerns, the most cited reason was family pressure to quit smoking.

Q: How long have you been smoking?



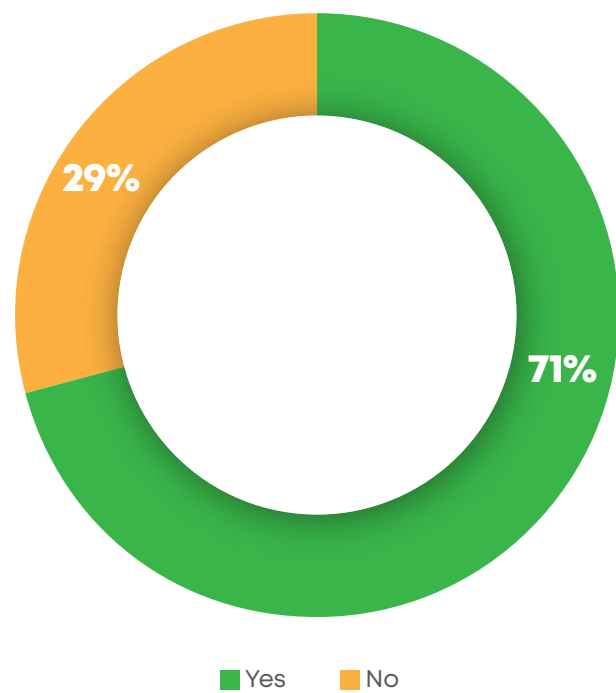
73% of the participants have been smoking for less than ten years while the remaining **27%** have been smoking for over 10 years.

Q: How long have you been smoking your current brand?

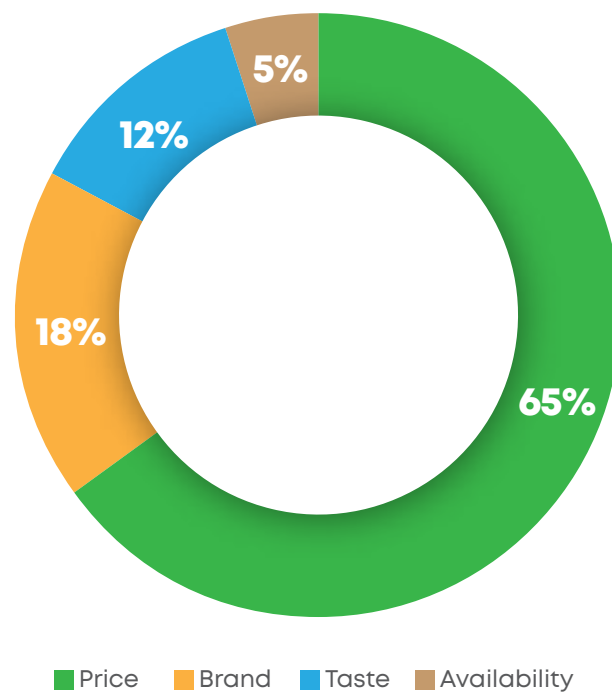


While a vast majority of smokers, **27%** have been smoking for over 10 years, the survey shockingly revealed that **69%** of the participants have been smoking their current brand for less than one year.

Q: Did you recently change your cigarette brand?

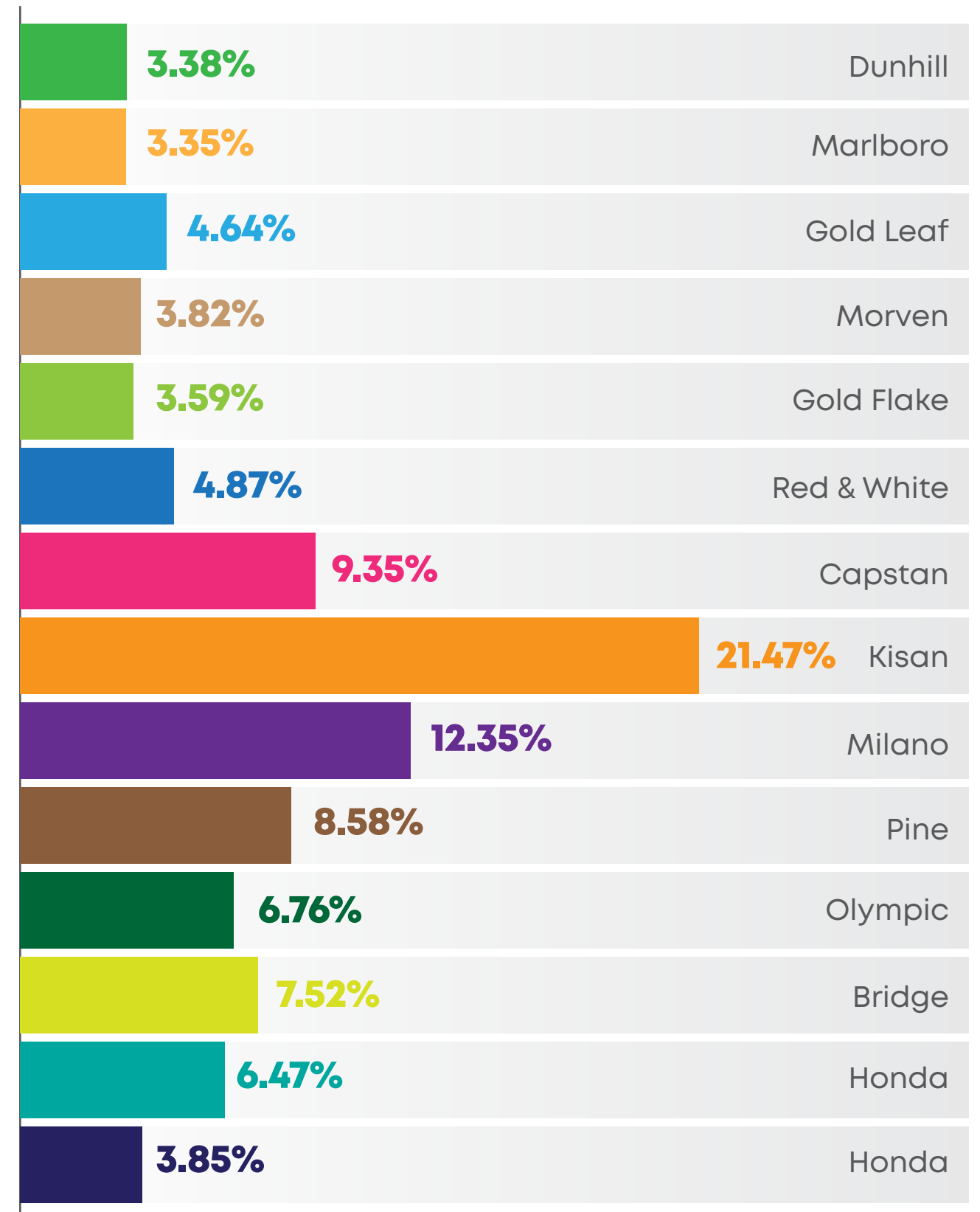


Q: What prompted you to change your brand?



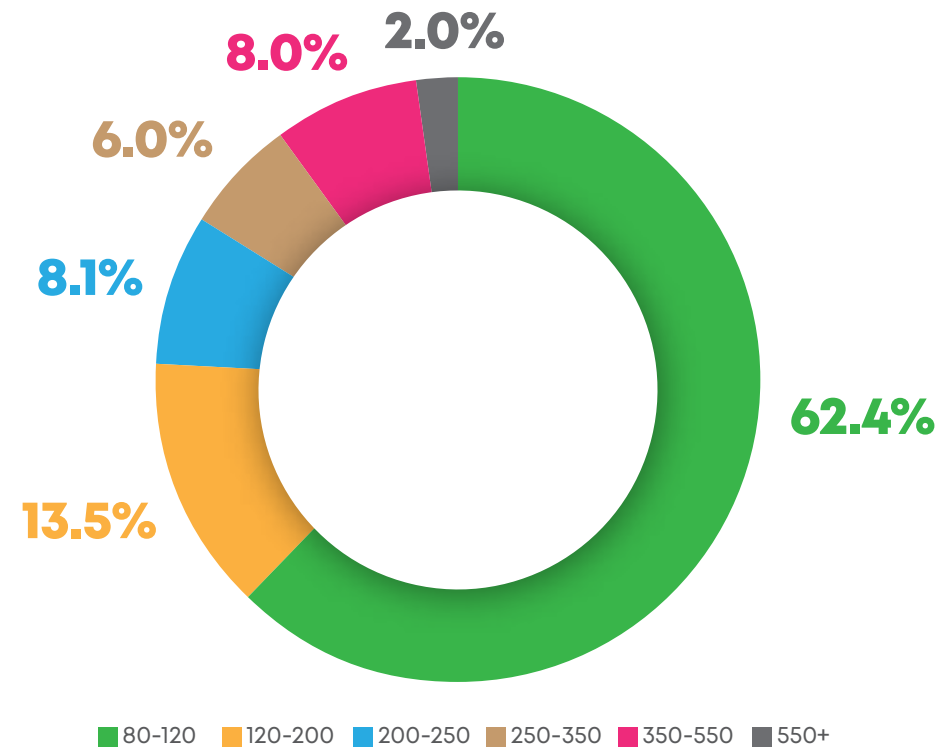
71% of the participants claimed to have changed their cigarette brand in the last one year and **65%** of these smokers cited the recent sharp increase in cigarette prices as the leading reason to trigger the brand switching and the availability of cheaper non-tax paid cigarettes.

Q: Which brand are you currently smoking?



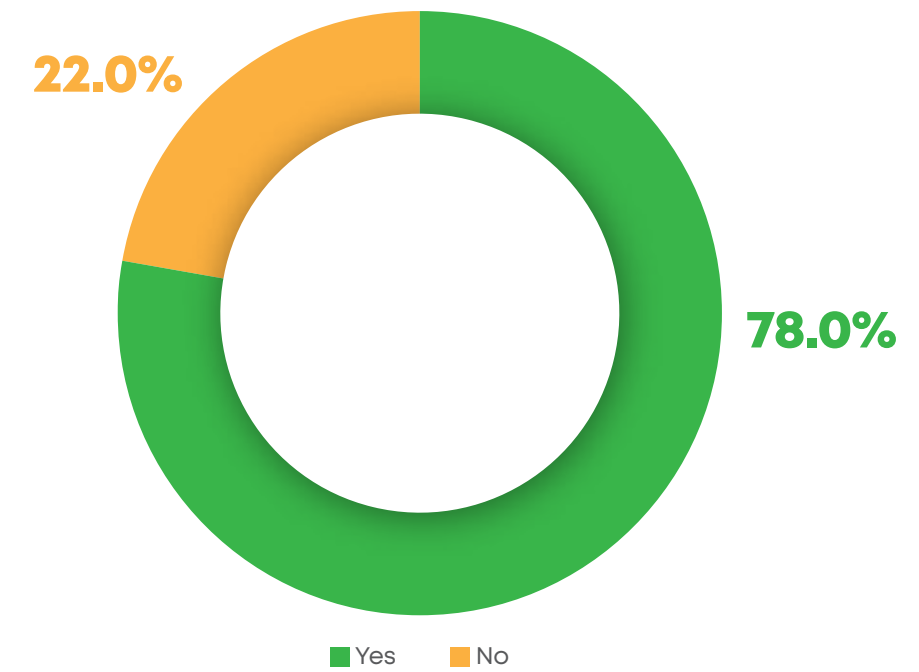
46% have **switched to cheaper** locally manufactured tax-evaded cigarettes while **20.9%** have started smoking smuggled cigarette brands. **33%** **continue to smoke tax-paid cigarettes.**

Q: What is the current price of your cigarette brand?



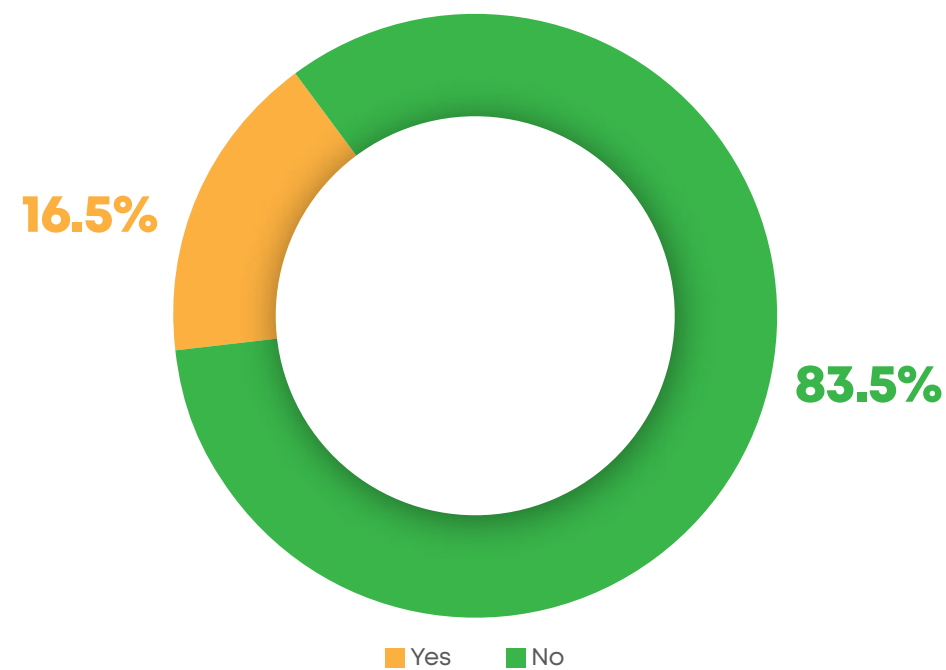
A large percentage of the participants **62.4%** are reported to be smoking cigarettes ranging from 80 to 120 price points which is even below the government-mandated minimum price of **PKR127** per cigarette pack. This implies that the sharp excise hike has unfortunately triggered a massive shift of smokers towards cheap tax-evaded products selling below the minimum price. This merely proves the economic theory of cross-elasticity where an increase in the price of cigarettes has triggered a shift towards substitutes in the form of cheaper non-tax-paid cigarettes.

Q: Does your current pack of cigarettes have the picture health warning?



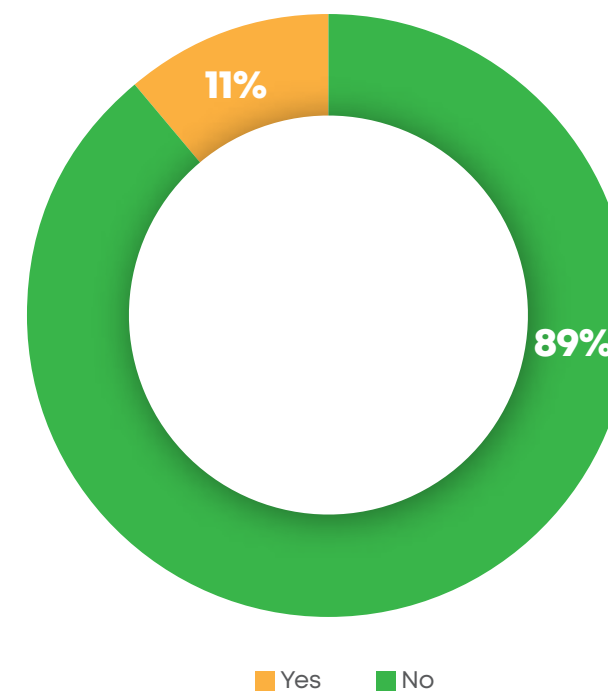
78% of the participants confirmed the presence of picture health warning on their packs while **22%** did not have the government-mandated picture health warning.

Q: Does your current pack of cigarettes have tax stamps/stickers/tickets?

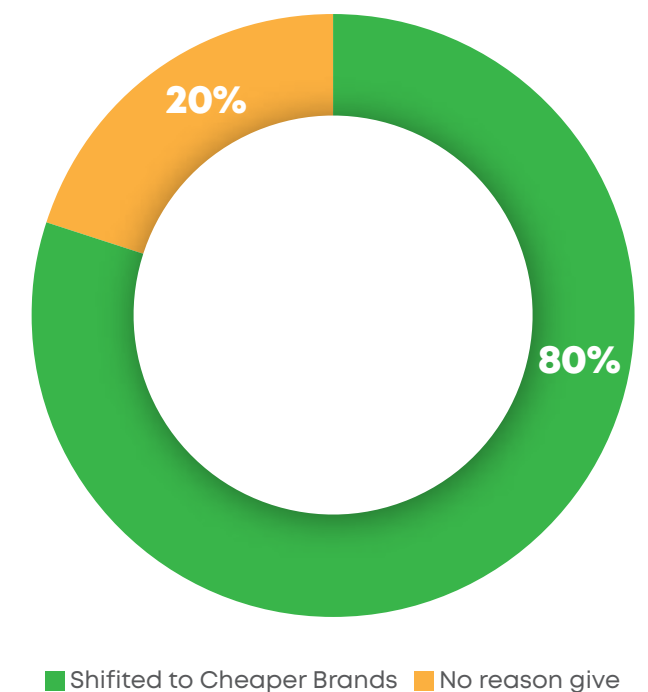


Despite track and trace implementation since June 2022, **83.5%** of the participants reported the absence of tax stamps on their cigarette packs.

Q: Has the recent price increase reduced your consumption?



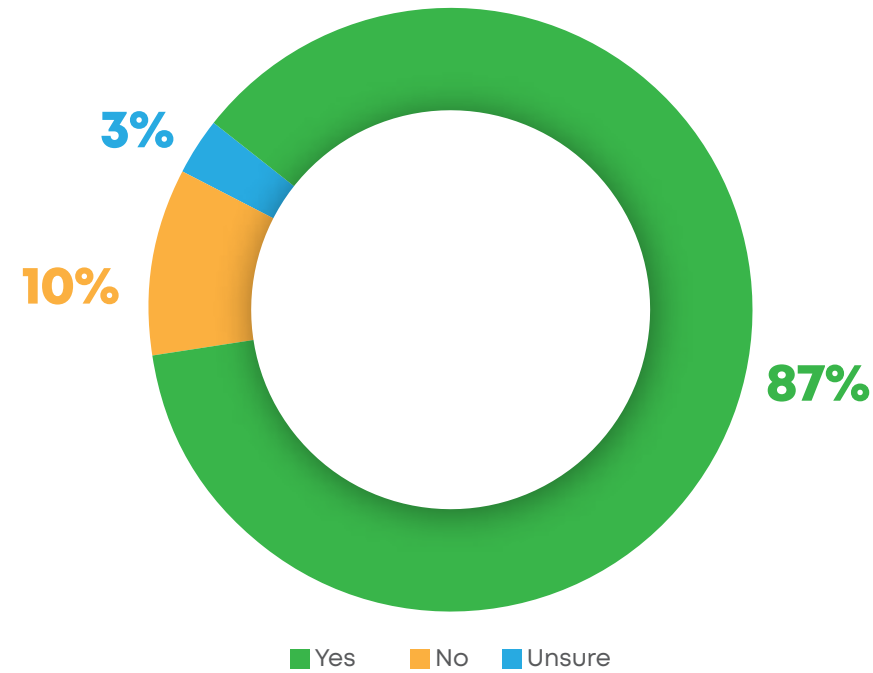
Q: If no, then why not?



89% of respondents mentioned that their cigarette consumption patterns have not dipped, and this was corroborated by the fact that a vast majority **80%** have switched their consumption to cheap tax-evaded cigarette brands. Instead, **80%** moved to cheaper cigarette brands citing price as the main cause of change.

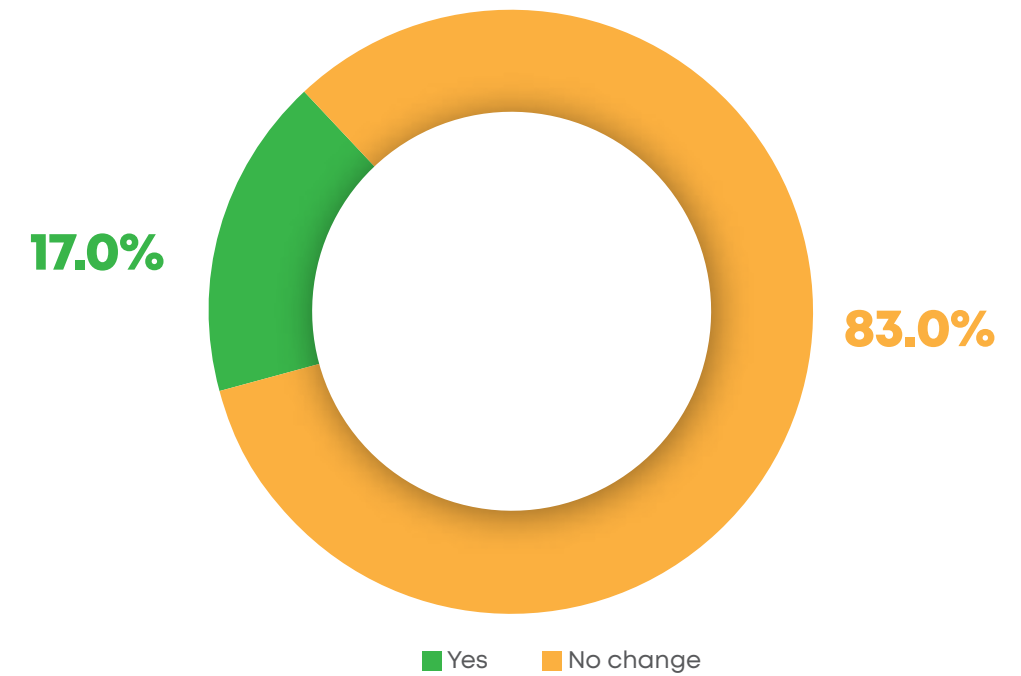
Retailers

Q: Do you think a very high tax increase on cigarettes has increased the sale of cheap cigarettes?



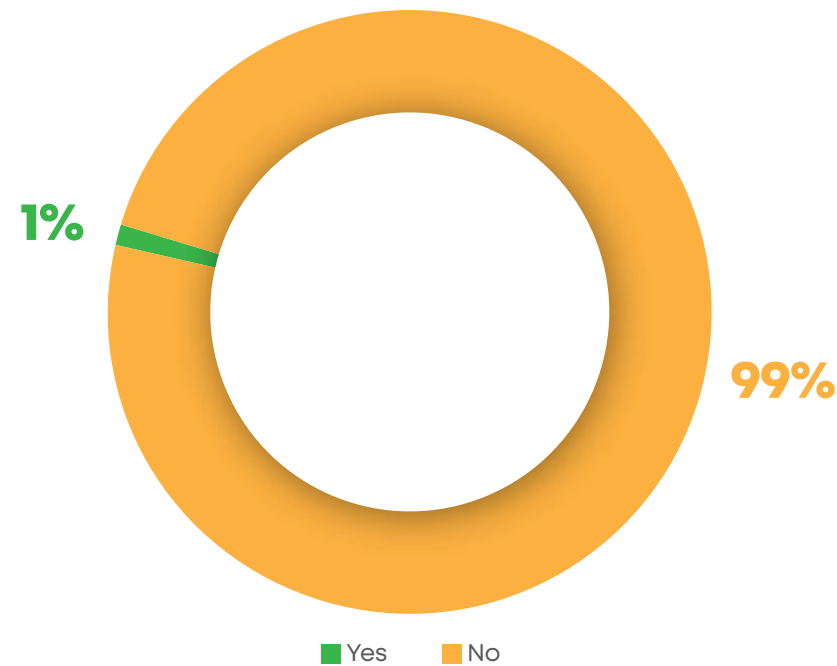
87% of retailers confirmed that the recent excise price increase has increased the demand from smokers for cheaper cigarette brands.

Q: Has your earnings through cigarettes decreased?



However, despite the FED hike, retailers reported no change in sales and revenue, instead cigarette sales remain the same. Retailers also mentioned their earnings have gone up by 29% because of increased margins on cheaper brands.

Q: Are you aware of the minimum legal cigarette price set by the government?



99% of the retailers were not aware of the minimum legal cigarette packet price

DISCUSSION

The findings of this study shed light on the multifaceted dynamics of smoking behavior following a recent cigarette price increase in Pakistan. Despite ongoing public health campaigns, a significant portion of respondents continue to smoke, indicating the persistent challenge of tobacco use in the population. Awareness of smoking-related health risks varied among respondents, with a majority demonstrating high awareness.

This underscores the importance of targeted awareness initiatives to further educate the public about the dangers of tobacco consumption. Although many smokers reported attempting to quit, the primary motivation was health concerns rather than increased cigarette prices. This suggests that while price hikes may prompt some individuals to quit, health considerations remain the main driver of cessation efforts.

The duration of smoking among respondents was evenly distributed across different age groups. A significant finding is the prevalence of brand switching among smokers, with the majority reporting a recent change in their cigarette brand. Price emerged as the main factor, as price disparities offer a significant incentive for bootlegging, thereby driving brand switching and highlighting the influence of price sensitivity on consumer behavior.

Most smokers reported consuming cigarettes from the illicit sector, indicating widespread availability and affordability of tax-evading brands. This shift to cheaper brands post-price hike suggests that while price increases may deter some individuals, they may drive others towards more affordable alternatives. Moreover, the majority of smokers reported that the recent price increase did not reduce their cigarette consumption. Instead, a significant proportion increased their daily smoking consumption after switching to cheaper cigarettes, revealing unintended consequences of price-based tobacco control measures.

These findings underscore the importance of comprehensive tobacco control measures addressing both demand and supply-side factors. Efforts to reduce smoking prevalence should be accompanied by strategies to combat illicit trade, enhance public awareness, and

support smoking cessation. There has been no notable decrease in consumption, and the majority have shifted to cheaper tax-evaded cigarettes. This has not only undermined the government's objective to reduce consumption but has also had a negative impact on the tax base, which has clearly narrowed. This is an unfortunate outcome when fiscal policies result in narrowing the already narrow tax base in Pakistan.

Clearly, in the absence of effective enforcement and tax collection mechanisms, significant increases in taxes create an incentive for tax evasion, which has clearly happened in Pakistan's cigarette industry. The World Bank has stated that countries should have significant enforcement measures in place before considering massive increases in taxes and duties, without which it will only incentivize the creation and growth of a parallel economy.

The IMF in its country report for Pakistan in June 2023 has also acknowledged this, stating that the FBR was unable to realize the full potential of the increase in cigarette excise duties mainly due to the lack of implementation of track and trace, i.e., enforcement measures.

By addressing the underlying drivers of smoking behavior and strengthening regulatory enforcement, policymakers can work towards creating a healthier and tobacco-free society in Pakistan.

CONCLUSION

In conclusion, this study conducted by Umeed-e-Sehar sheds light on the complex challenges facing tobacco control efforts in Pakistan. Despite the enforcement of price increases, a significant number of smokers have turned to non-tax-paid illicit brands, hindering public health initiatives and depriving the government of essential revenue streams. Urgent action from policymakers and health authorities is imperative.

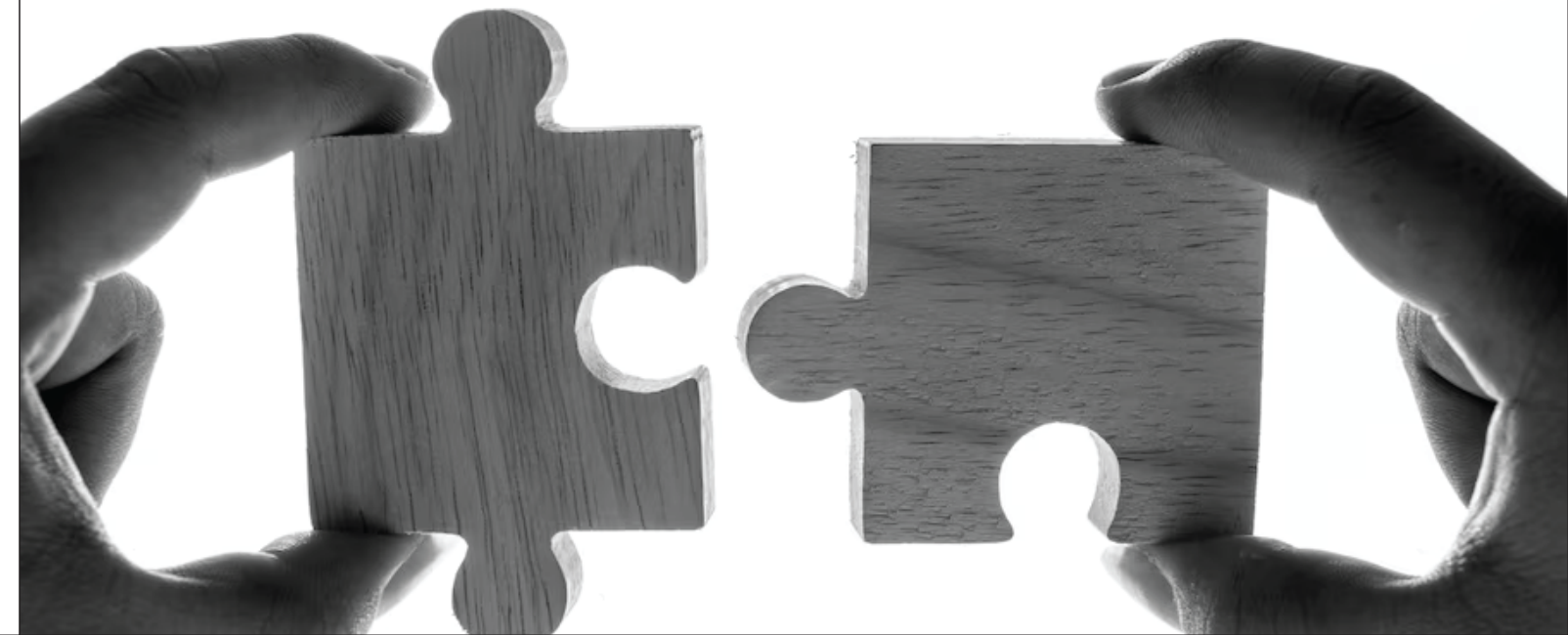
Addressing this multifaceted issue demands a comprehensive approach that extends beyond mere price adjustments. Innovative strategies targeting the root causes of smoking behavior, robust regulatory enforcement, and intensified public awareness campaigns are necessary. Further research is needed to explore concrete measures to tackle illicit tobacco consumption and evaluate policy effectiveness over time.

The findings underscore critical points. Despite the federal excise duty increase and price hike, consumer consumption has not significantly decreased; instead, there has been a notable shift towards cheaper

non-tax-paid cigarettes. Urgent measures must be implemented to curb illicit trade, creating a conducive environment for the legitimate sector to thrive, and realize the potential revenue from the tobacco sector in Pakistan.

This study's findings illuminate the intricate dynamics of smoking behavior following a recent cigarette price increase in Pakistan. Despite ongoing public health campaigns, a significant portion of respondents continue to smoke, highlighting the persistent challenge of tobacco use. Health concerns remain the primary motivation for cessation efforts.

The prevalence of brand switching among smokers is significant, influenced primarily by price disparities and the availability of tax-evading brands. Efforts to reduce smoking prevalence should be accompanied by strategies to combat illicit trade, enhance public awareness, and support smoking cessation. Addressing the underlying drivers of smoking behavior and strengthening regulatory enforcement can pave the way for a healthier and tobacco-free society in Pakistan.



RECOMMEN- DATIONS

Based on the findings, several recommendations emerge:

1. Strengthen enforcement of tobacco control laws and digitization like tax stamps, to curb the sale of illicit cigarettes.
2. Enhance public awareness campaigns about the health risks of smoking and the prevalence of illicit tobacco trade across the country.
3. Mandated picture health warning, presence of tax stamps, and the minimum price.
4. Implement stricter penalties for retailers selling tax-evaded and illicit cigarettes.
5. Review and update tobacco taxation policies to ensure that the sale of illegal; cigarettes is curtailed.
6. External factors, such as changes in socio-economic conditions or tobacco control policies, may influence smoking behavior independently of the price increase.



LIMITA- TIONS

It's important to acknowledge the limitations of this study, including:

1. The convenience sampling method may limit the generalizability of findings.
2. Self-reporting bias may affect the accuracy of responses, particularly regarding smoking habits and motivations.
3. The study's cross-sectional design precludes the establishment of causality between variables.



FUTURE RESEARCH

Future research could focus on:

1. Longitudinal studies to track changes in smoking behavior over time.
2. Comparative analysis of tobacco control policies and their effectiveness across different regions.
3. Qualitative investigations into the motivations behind purchasing illicit tobacco products.
4. Economic analysis of the impact of illicit tobacco trade on government revenue and public health expenditure.

