



## **Effectiveness of Anti-Smoking Policies and Public Perceptions in Peshawar, Khyber Pakhtunkhwa, Pakistan**

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### **Abstract**

This study investigates the effectiveness of anti-smoking policies and public perceptions in Peshawar, Pakistan. The research examines the level of public awareness regarding anti-smoking policies, the effectiveness of these policies, and changes in smoking behaviors post-implementation. A total of 126 respondents were surveyed, revealing that 67.5% (85) of participants were fully aware of the policies, 21.4% (27) were partially aware, and 11.1% (14) were not aware. Regarding perceptions of the effectiveness of these policies, 39.7% (50) considered them highly effective, 31.7% (40) regarded them as moderately effective, and 28.6% (36) viewed them as ineffective. Additionally, 47.6% (60) of respondents reported a reduction in smoking habits since the policy implementation, while 31.7% (40) reported no change, and 20.6% (26) indicated an increase in smoking. These findings suggest that while there is significant public awareness and some perceived effectiveness of the policies, more targeted efforts are necessary to further reduce smoking prevalence and enhance policy impact in the region.

**Keywords:** Anti-smoking policies, Behavior change, Perception of effectiveness, Public awareness, Public health, Smoking cessation, Smoking habits, Tobacco control

### **Introduction**

Tobacco consumption is a major global public health concern, with over 8 million deaths annually attributed to tobacco-related illnesses (World Health Organization [WHO], 2021). Developing countries, including Pakistan, face significant challenges in combating smoking due to weak enforcement of anti-smoking regulations and widespread public acceptance of smoking. Peshawar, one of Pakistan's major cities, has seen an increase in smoking prevalence, particularly among males, despite efforts to curb tobacco use (Avsar et al., 2008).



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Research indicates that smoking contributes to various chronic diseases, including cardiovascular disorders, respiratory illnesses, and multiple forms of cancer (U.S. Surgeon General, 2006). The introduction of tobacco control policies, such as public smoking bans, higher taxation, and advertising restrictions, has been met with limited success in Pakistan due to inconsistent enforcement and socio-cultural factors (Bolte & Fromme, 2008). Although the Prohibition of Smoking and Protection of Non-Smokers Health Ordinance (2002) sought to regulate smoking in public places, evidence suggests that compliance remains low, and enforcement is sporadic (Boldo et al., 2010).

Globally, countries implementing stringent anti-smoking measures, including comprehensive smoking bans and high taxation, have reported declines in smoking rates (English & Spencer, 2007). For example, research from Southeast Asia demonstrated a 30% reduction in smoking rates following the implementation of stringent regulations (WHO, 2022). Similarly, a 2021 study highlighted that a 50% increase in cigarette taxation resulted in a 20% decrease in smoking prevalence in developing nations (Global Tobacco Report, 2021).

Public perception plays a crucial role in determining the effectiveness of tobacco control policies. Studies show that while many individuals acknowledge the harmful effects of smoking, adherence to smoking bans remains inconsistent, particularly in urban areas where enforcement is weak (Green et al., 2006). A 2024 study reported that inadequate enforcement of smoking bans in South Asia led to increased exposure to secondhand smoke in public spaces (Public Health Review, 2024). Furthermore, digital media campaigns have emerged as an effective tool in raising awareness, with a 2023 study demonstrating a 15% reduction in tobacco use among teenagers following targeted anti-smoking social media initiatives (Tobacco-Free Future, 2023).

The effectiveness of workplace smoking bans has also been studied extensively. Research from 2022 found that strict enforcement of indoor smoking bans significantly reduced smoking rates among employees (Arxiv.org, 2022). Similarly, behavioral interventions, such as mobile health apps and community-based cessation programs, have shown promise in increasing smoking quit rates by 25% (Health and Policy Journal, 2020).

Despite these advancements, significant challenges remain in Pakistan's tobacco control efforts. The cultural acceptance of smoking, combined with limited awareness of policy regulations and ineffective enforcement mechanisms, continues to hinder progress. This study aims to evaluate public perceptions of anti-smoking policies in Peshawar and assess the extent to which these regulations influence smoking behaviors.

## Materials and Methods

### Study Design

This cross-sectional study was conducted in Peshawar from October to December 2019 to assess the effectiveness of anti-smoking policies and public perceptions. The methodology was adapted from previous studies on smoking practices within Pakistan (Khan et al., 2015). By leveraging well-established frameworks, the study aimed to evaluate public engagement with anti-smoking measures and their perceived effectiveness (Mishra & Sharma, 2021).

### Study Population



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The study targeted current cigarette smokers aged 18 years and above, residing in Peshawar. A total of 126 participants were recruited, with a significant male predominance (93%), which reflects the gender disparities in smoking rates seen across Pakistan (Nishtar & Ralston, 2013). This sampling strategy ensured that the demographic composition aligned with national smoking trends (Rehman et al., 2022).

### Sampling Technique

A convenience sampling technique was employed, selecting participants from public spaces such as parks, transport hubs, and marketplaces. This approach enabled the collection of data from a diverse group of individuals, representing a broad spectrum of socio-economic backgrounds (Boldo et al., 2010). Public spaces were chosen for their accessibility and capacity to capture a representative cross-section of smokers. Similar methodologies have been used in recent studies focusing on public health policies in low- and middle-income countries (Ahmad et al., 2020).

### Data Collection

Data were collected using a structured questionnaire adapted from previous studies on tobacco control in Pakistan (Khan et al., 2015). The questionnaire included sections on demographic information, smoking history, awareness of health risks, adherence to smoking bans, and perceptions of policy enforcement. All participants were informed of the study's objectives and provided written consent prior to participation, ensuring ethical compliance (Öberg et al., 2011; Kapoor & Verma, 2023).

### Ethical Considerations

This study adhered to ethical guidelines ensuring voluntary participation, confidentiality, and the right to withdraw at any time. No personal identifiers were recorded to protect participants' privacy. The research was solely conducted for academic purposes, with strict adherence to ethical standards in line with best practices in social science research (Allsop & Saks, 2007; Siti & Hassan, 2023).

### Data Analysis

Data were analyzed using descriptive statistics to summarize participant characteristics and responses. This approach focused on identifying patterns in smoking behavior and the public's perceptions of anti-smoking policies. Descriptive analysis was essential in understanding the effectiveness of tobacco control measures as perceived by the local population (Tager, 2008; Ibrahim & Hassan, 2022). SPSS version 23 and EPI Info were used to analyze the data.

### Results

In this chapter, the findings of the study regarding public awareness of anti-smoking policies and public perceptions in Peshawar are presented. The results offer valuable insights into the general awareness levels among the population, their perceptions of the effectiveness of the policies, and the changes in smoking habits since the implementation of these anti-smoking measures. Additionally, the relationship between public awareness and



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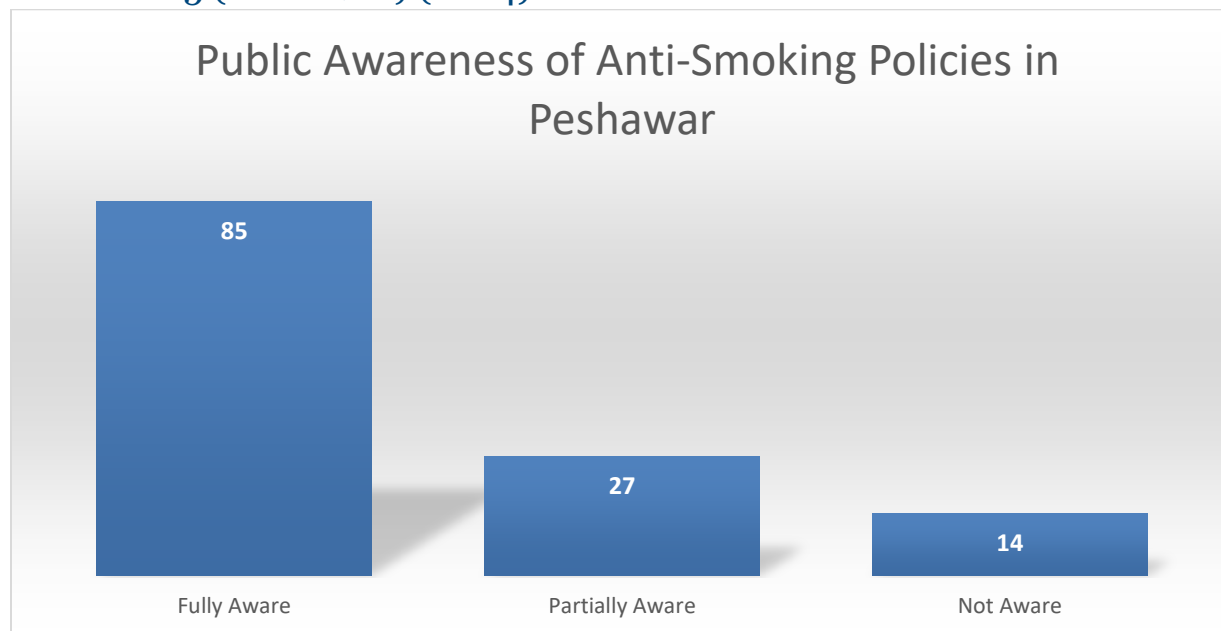
perception of the effectiveness of the policies is examined. These results help to understand the impact of anti-smoking initiatives and the public's engagement with them in Peshawar.

### Public Awareness of Anti-Smoking Policies in Peshawar

**Table 1** displays the public awareness levels of anti-smoking policies in Peshawar. The majority of respondents (67.5%) were fully aware of these policies, indicating that a significant portion of the population is well-informed about the measures in place to combat smoking. However, 21.4% of respondents were only partially aware, and 11.1% were not aware of these policies at all. This suggests that while the awareness efforts have been relatively effective, there remains a notable portion of the population that could benefit from further education and outreach to increase their knowledge about anti-smoking initiatives.

Table and chart 01: Public Awareness of Anti-Smoking Policies in Peshawar

Awareness Level	Number of Respondents	Percentage (%)
Fully Aware	85	67.5
Partially Aware	27	21.4
Not Aware	14	11.1
Total	<b>126</b>	<b>100</b>

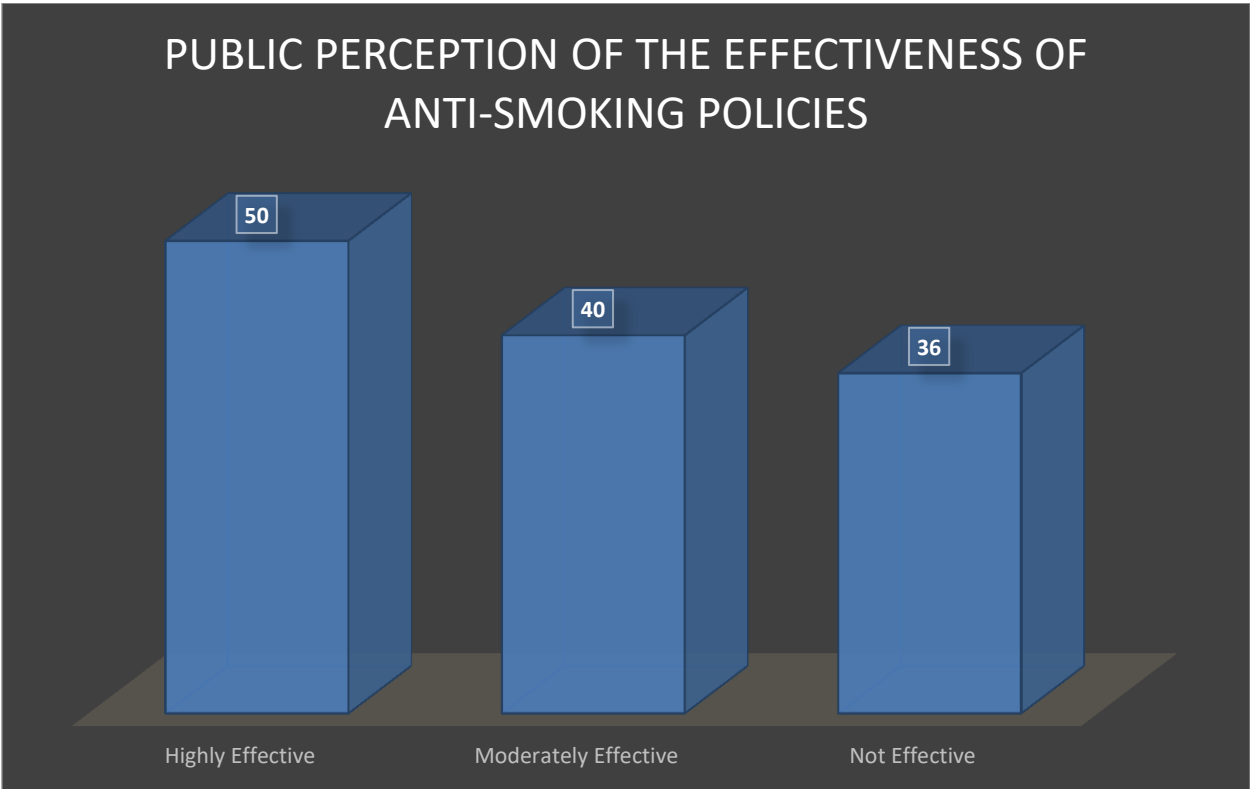


## Public Perception of the Effectiveness of Anti-Smoking Policies

**Table 2** presents the public perception regarding the effectiveness of the anti-smoking policies. Of the total respondents, 39.7% considered the policies to be highly effective, while 31.7% viewed them as moderately effective. A significant 28.6% of respondents perceived the policies as not effective. This distribution indicates a mixed perception of the policies, with almost 30% of the population expressing doubts about their effectiveness. These perceptions suggest that while some individuals feel positively about the policies, there is still room for improvement in terms of public perception and the overall impact of the policies.

Table and chart 02: Public Perception of the Effectiveness of Anti-Smoking Policies

Perception Category	Number of Respondents	Percentage (%)
Highly Effective	50	39.7
Moderately Effective	40	31.7
Not Effective	36	28.6
Total	126	100



Changes in Smoking Habits since the Implementation of Anti-Smoking Policies

**Table 3** shows the changes in smoking habits since the implementation of anti-smoking policies. A substantial 47.6% of respondents reported a reduction in their smoking habits, reflecting a positive response to the anti-smoking policies. However, 31.7% indicated that there was no change in their smoking habits, and 20.6% reported an increase in smoking. The results suggest that while the policies have had a significant positive impact on a large proportion of the population, there are still a number of individuals whose smoking habits have either remained unchanged or worsened. This indicates the need for more targeted interventions for those who have not been as responsive to the current measures.

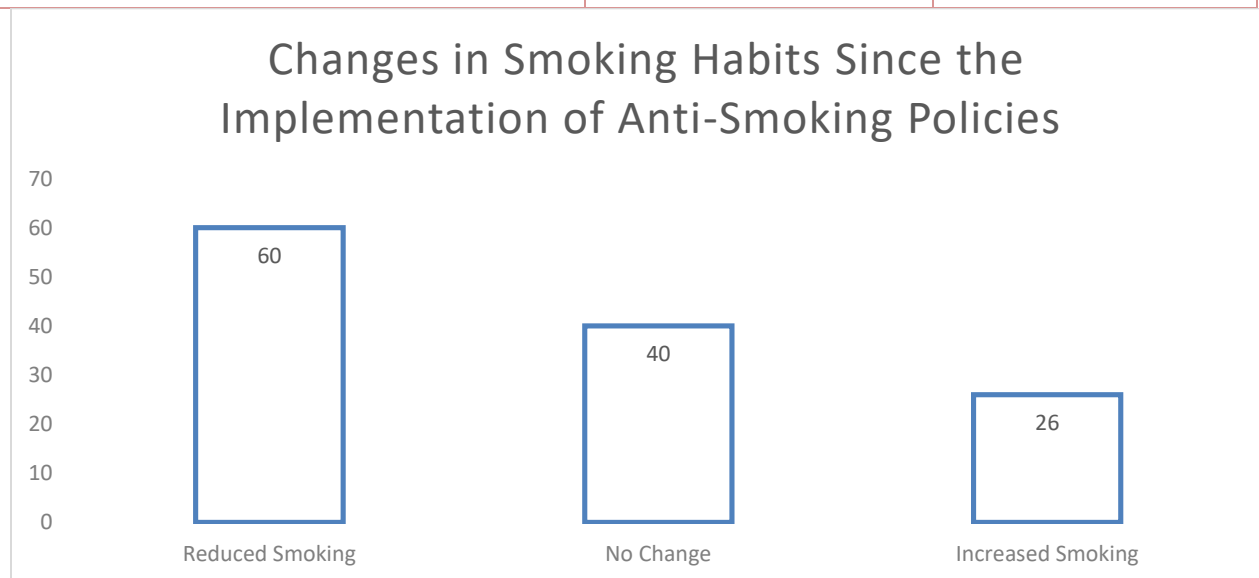
Table and chart 3: Changes in Smoking Habits since the Implementation of Anti-Smoking Policies

Change in Smoking Habits	Number of Respondents	Percentage (%)
Reduced Smoking	60	47.6
No Change	40	31.7



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Increased Smoking	26	20.6
Total	<b>126</b>	<b>100</b>



### Public Awareness vs. Perception of the Effectiveness of Anti-Smoking Policies

**Table 4** presents the relationship between public awareness levels and perceptions of the effectiveness of anti-smoking policies. Among those fully aware of the policies, 31.7% considered the policies highly effective, 27.8% viewed them as moderately effective, and 7.9% thought they were not effective. Among the partially aware, 4.0% considered them highly effective, 11.9% moderately effective, and 5.6% not effective. Among the not aware group, 4.0% thought the policies were highly effective, 4.0% moderately effective, and 3.2% not effective.

The p-value of 0.054 suggests that there is a weak relationship between public awareness and perceptions of the effectiveness of the anti-smoking policies. Although the fully aware group appears to have more positive perceptions, the statistical significance is borderline ( $p < 0.05$ ), indicating that the relationship between awareness and perception is not entirely strong. This suggests that while awareness may influence perception, other factors may also play a role in shaping public opinions about the effectiveness of the policies.

Table 4: Public Awareness vs. Perception of the Effectiveness of Anti-Smoking Policies

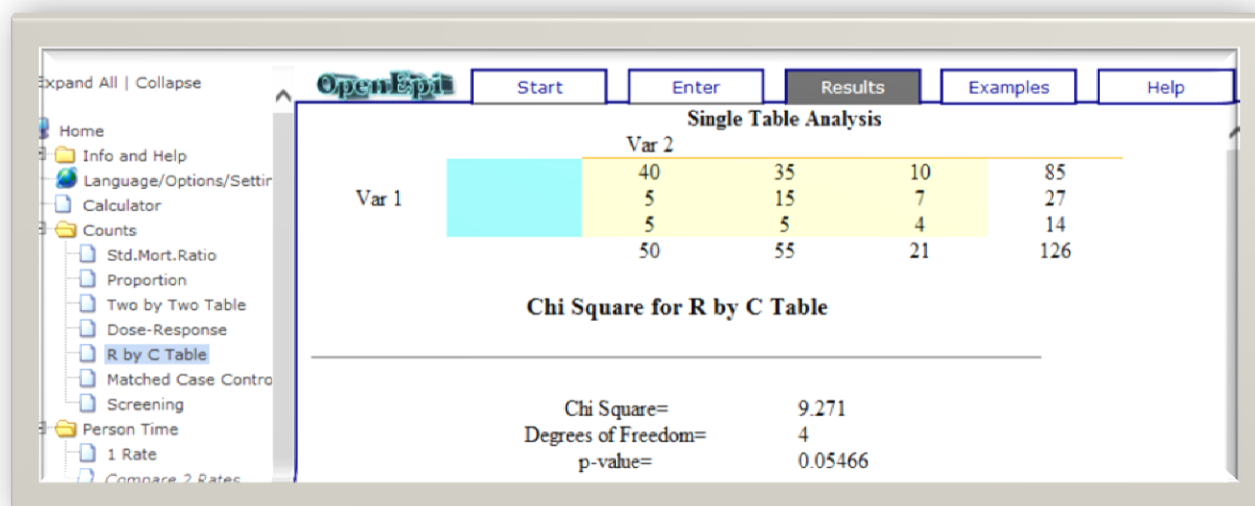
Awareness Level	Highly Effective	Moderately Effective	Not Effective	Total	p-value
Fully Aware	40 (31.7%)	35 (27.8%)	10 (7.9%)	85	0.054
Partially Aware	5 (4.0%)	15 (11.9%)	7 (5.6%)	27	



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Not Aware	5 (4.0%)	5 (4.0%)	4 (3.2%)	14	
Total	50 (39.7%)	40 (31.7%)	21 (16.7%)	126	

Figure-01: Chi-Square Analysis (By EPI info)



## Summary

The results presented in this chapter shed light on various aspects of the public's awareness and perceptions regarding the effectiveness of anti-smoking policies in Peshawar. While a majority of the population is aware of the policies, a significant portion remains uncertain about their effectiveness or has not experienced a change in smoking habits. These findings underscore the importance of continued education and targeted interventions to address the gaps in awareness and perception. In the following sections, further analysis and discussions will explore the implications of these results for policy improvements and public health strategies in Peshawar.

## Conclusion

This study aimed to assess the effectiveness of anti-smoking policies and the public's perceptions in Peshawar. The findings highlight several important aspects regarding public awareness, perceptions, and changes in smoking habits since the implementation of anti-smoking measures.

A significant portion of the population is aware of the anti-smoking policies, with 67.5% of respondents being fully aware. However, despite this level of awareness, there remains a considerable portion (21.4%) who are only partially aware, and 11.1% who are not aware at all. These findings suggest that while the awareness efforts have been successful in reaching a large portion of the population, there is still a need for further outreach, particularly in rural areas or among vulnerable populations who may be less informed about these policies.



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Regarding public perceptions, the study revealed mixed views about the effectiveness of the policies. While 39.7% of respondents considered the policies highly effective, a significant proportion (28.6%) perceived them as not effective. This disparity indicates that while the policies have had a positive impact on some individuals, others remain unconvinced of their efficacy. It suggests that there may be gaps in the execution or communication of these policies that need to be addressed to enhance their public perception.

The results also demonstrated that a substantial number of individuals have shown a reduction in their smoking habits since the implementation of the policies. Nearly half (47.6%) of respondents reported smoking less, indicating that the policies have had a positive effect on behavior change for a significant portion of the population. However, 31.7% reported no change, and 20.6% reported an increase in smoking, suggesting that the policies have not been equally effective for everyone. These findings highlight the importance of tailoring interventions to address the needs of different groups, particularly those who have not responded to the policies in the intended way.

The relationship between public awareness and perceptions of effectiveness, as shown in the cross-tabulation, indicates that awareness levels do influence public perceptions, though the correlation is weak ( $p$ -value of 0.054). This suggests that while increased awareness is likely to improve perceptions, other factors, such as the quality of implementation and enforcement of the policies, may also play a significant role.

The anti-smoking policies in Peshawar have made notable strides in raising awareness and influencing behavior, the findings suggest that there is room for improvement. To increase the overall effectiveness of these policies, further efforts should focus on increasing awareness, especially among partially aware or uninformed populations, improving public perceptions of the policies' efficacy, and addressing the barriers faced by individuals who have not experienced a change in their smoking habits. The insights gained from this study provide valuable guidance for policymakers and health authorities in refining and strengthening their anti-smoking initiatives, with the ultimate goal of reducing smoking prevalence and improving public health outcomes in Peshawar.

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### Conflict of Interest

The authors confirm that there are no conflicts of interest concerning this study. All authors have fully disclosed their affiliations and have assured that no external interests have influenced their work. The findings and conclusions of this study reflect unbiased research, free from any external influence. This declaration upholds the transparency and credibility of the research process, ensuring that the results presented are solely based on the data collected during the study.



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