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Understanding Awareness and Perceptions of Tobacco Use and Cessation in Marginalized Pakistani Communities

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Abstract
Tobacco use remains a major public health challenge in Pakistan, with a high prevalence of both smoking and smokeless forms. This study inquiries about the knowledge, perceptions, and attitudes towards tobacco use and cessation among marginalized populations in Pakistan. Conducted across five major districts with 1,568 respondents, the research explores awareness of health risks, tobacco control policies, cessation resources, and alternative products. Findings reveal low awareness of tobacco policies (only 4.9%), limited knowledge of cessation services (31%), and misconceptions about safer alternatives. Peer pressure, stress relief, and curiosity emerged as key factors for tobacco initiation, while addiction and stress were primary barriers to quitting. Socioeconomic disparities were evident, with higher education and income correlating with better awareness and willingness to consider cessation options. The study underscores the need for targeted education, improved access to cessation support, and community-based interventions to address gaps in knowledge and foster healthier attitudes towards tobacco use.

Keywords: Tobacco, health risks, awareness, perceptions, Pakistan, cessation, harm reduction, policy

1. Introduction

Tobacco consumption, one of the most formidable public health challenges of our time, has now reached an epidemic proportion across the world. It is a leading preventable cause of morbidity and mortality worldwide. Tobacco use is responsible for approximately eight million deaths annually across the world, including one million fatalities among non-smokers, who are exposed to second-hand smoke (World Health Organization, 2023). It is particularly lethal among men, accounting for about 1 in 5 deaths (The Lancet & The Lancet Public Health, 2021). These figures indicate that tobacco-related illnesses claim one life every six seconds globally. The disproportionate health burden is evident in low- and middle-income countries, which accounts for approximately 80% of the world's smokers (World Health Organization, 2023).

In Pakistan, tobacco consumption poses a serious threat to public health, inducing economic burden on individuals, families, and society with far-reaching consequences. An estimated 31.6 million adults aged 15 years and above (approximately 19.9% of the adult population) currently use tobacco in different forms. It reportedly claims over 160,000 tobacco-related deaths annually. Overall, tobacco-related illnesses account for nearly 15.9% of all deaths in Pakistan (International Journal of Cancer, 2000).

The economic toll is equally alarming. Smoking-related illnesses and premature deaths cost the nation at least 1.4% of its GDP every year (PAKISTAN Tobacco Fact Sheet 2024-25, 2024).
Tobacco-related diseases also account for over 71% (Rs 437.76 billion) of the country's health care expenses (Memon et al., 2022), and approximately one in three household members is exposed to tobacco smoke daily (PDHS 2017-18).
Moreover, despite various legislative measures – including banning of sales to minors, public smoking restrictions, and Pakistan's ratification of the WHO Framework Convention on Tobacco Control (FCTC) in 2004 – the nation continues to face challenges such as the affordability and widespread accessibility of tobacco products, especially in rural and low-income communities (Masud et al., 2023).
These figures underscore the urgency of implementing effective tobacco cessation strategies, particularly for the vulnerable and marginalized sections of society. Socioeconomic disparities, lack of awareness, and deficient policy frameworks are the major factors contributing to the spread of tobacco among the poor and marginalized groups.

1.1. Aims and Objectives

The primary intent of this study is to construct a comprehensive baseline of Knowledge, Attitudes, and Practices (KAP) related to tobacco discontinuation and the implementation of safer alternatives within the target community.
The specific goals are:

- To identify and analyse the key factors influencing tobacco use initiation, such as psychosocial, economic, and demographic determinants, as well as barriers to quitting or transitioning to safer alternatives within the population.
- To identify and analyse the key factors influencing tobacco use initiation, such as psychosocial, economic, and demographic parameters, as well as obstacles to abandoning or progressing to safer alternatives within the population.

2. Methodological Framework

2.1. Geographical Scope, Sample Selection, and Methodology

The study chose the districts that are highly ranked on the Human Development Index (HDI), which are Lahore, Islamabad, Rawalpindi, Karachi, and Peshawar (United Nations Development Program, 2017). The selection hinged on their accessibility to health care, higher educational levels, and overall quality of life. The addition of marginalized tobacco consumers from diverse backgrounds in terms of linguistics and ethnicities ensured a detailed understanding of socio-economic and cultural factors influencing tobacco use.
Both, purposive and quota sampling were conducted to ensure representation across locality, gender, and age groups. Additionally, snowball sampling facilitated access to harder-to-reach populations, including transgender people and other marginalized groups for focus group discussions and in-depth interviews.

2.2. Sample Size and Composition

A total of 1,568 respondents aged 18–50 years were surveyed across five districts (Rawalpindi, Lahore, Karachi, Peshawar, and Islamabad), with each district assigned a target of approximately 300 participants. The sample included diverse groups based on gender, locality, and disability status to ensure inclusivity and representativeness.
Overall, 71.4% (n=1,120) were male, 19.8% (n=311) female, and 8.7% (n=137) transgender individuals, while 52.6% resided in urban areas regions and 47.4% in rural regions. Persons having disabilities constituted 11.6% (n=182) of respondents. Religious representation was predominantly Muslim (95.7%) (n=1,501), with 4.3% (n=67), from minority groups. Notably, 25% (n=392) were aged 18–24, reflecting focus on youth vulnerability to tobacco use initiation.

Qualitative data were collected to supplement the quantitative findings by conducting three focus group discussions (with Lady Health Workers in Peshawar, journalists in Rawalpindi, and Christian community members in Islamabad) and four in-depth interviews

2.3. Tools Development, Piloting, and Data Collection Process

Survey tools were developed through a consultative, research-driven process covering demographics, Knowledge, Attitudes, and Practices (KAP), and intervention feedback. A pilot test with 12 diverse participants in Islamabad and Rawalpindi informed refinements for clarity and cultural relevance. Final tools were translated into Urdu to enhance accessibility.

Eighteen trained local enumerators conducted surveys using the computer-Assisted Personal Interviewing (CAPI) system in English and Urdu to enhance data accuracy and efficiency. Training included research ethics, rapport-building, and mock interviews to prepare for field challenges.

Quality assurance measures like validation calls with 9% of respondents, verifying locations through GPS tracking, and thoroughly analyzing and cleaning the data by a quantitative research analyst to ensure reliability and integrity, were upheld. These precise protocols ensured that the collection of data was ethical, methodologically vigorous, and sanctioned high-quality findings for analysis.

2.4. *Research Ethics and Safeguarding*

The study ensured that the dignity, cultural sensitivities and rights were respected by adhering to the "Do No Harm" principle throughout design, sampling, data collection, and analysis.

Enumerators achieved informed consent, guaranteed voluntary participation with the flexibility to withdraw at any time, and upheld confidentiality standards through the anonymization of all personal data.

The surveys with individuals aged 18 and over were administered only after gaining expressed consent. To maintain confidentiality, personal information of participants was removed. Interviews were held in a secure and respectful environment to uphold participant well-being.

3. Demographic Profile Of Respondents

The respondents differed considerably in their levels of education; 14% reported having no formal education, while 20.9% of them completed middle school. Secondary education was represented by 28.4% of the sample, while university graduates constituted the major segment at 33.2%. A small proportion of participants had pursued technical diplomas or courses (1.7%) or received madrasa education (0.8%), while 1% did not disclose their educational background.

The income distribution of respondents reflects notable economic diversity. Approximately 25.9% of respondents reported earning less than Rs 25,000 per month, indicating a significant proportion living below the basic subsistence income level. The largest segment, comprising 35.3% of participants, earned between Rs 25,000 and Rs 50,000 monthly, representing the lower-middle-income group. Meanwhile, 16.4% reported an income between Rs 50,000 and Rs 75,000 per month, reflecting a moderate economic standing. About 9.8% of respondents earned between Rs 76,000 and Rs 100,000, and 12.7% reported earning more than Rs 100,000 per month, highlighting a smaller segment with relatively higher economic stability. This distribution underscores the socioeconomic disparities within the surveyed population, with the majority falling within low to middle-income brackets.

Among the 1,568 participants, the largest occupational group was private-sector employees, accounting for 31.5% of respondents. Entrepreneurship emerged as the second most common source of income, representing 17.9% of participants. Daily wage laborers comprised 10.7% of the sample, while 9.1% held government or semi-government jobs. Students made up 10.2% of respondents, and 6.0% were actively seeking employment. Housewives formed 5.0% of the sample and 6.0% of respondents reported begging as their main income source. Even a lesser proportion

accounted for by the retired segment of people (1.0%). This highlights that the respondents had a varied economic profile which included several different occupations and incomes from within the surveyed population.

The survey explored the broad range of tobacco products consumed by the respondents, concluding a pronounced inclination toward the traditional forms of tobacco, while modern alternatives such as vapes and nicotine patches remain relatively underutilized. Cigarette smoking emerged as the overriding choice, with 83.4% of participants reporting its consumption. 25.6% of the participants reported their choice as *Naswar*, which is a form of smokeless tobacco, highlighting its widespread acceptance. These findings underscore the entrenched cultural preferences for traditional tobacco products within the population.

The products that were less commonly consumed were vapes as reported by 1.1% of respondents. Cigars were consumed by 3.1% of participants, while *bidis*, traditional hand-rolled cigarettes, were consumed by only 5.5%.

A small proportion of respondents (8%) reported using other forms of tobacco products, such as *rajni* (a chewable tobacco), nicotine pouches, *mainpuri* (another chewable tobacco product), and *nagina* (another chewable tobacco product). Interestingly, a few participants also cited the use of non-tobacco recreational substances such as LSD[1] and "party pills," indicating sporadic overlap in the reporting of tobacco and non-tobacco products. These findings highlight the limited adoption of alternative nicotine products and the occasional inclusion of non-traditional substances in respondents' consumption patterns.

The majority of respondents (28.7%) report weekly expenditures within the Rs 1001–2000 range, with a close second of 27.1% falling in the Rs 501–1000 category. A smaller segment (5.8%) spends more than Rs 5,000 per week, while only 1.9% claim to spend nothing on tobacco and substance use.

Education level plays a pivotal role in shaping spending behavior. Respondents with no formal education demonstrate a clear preference for lower expenditure categories, with 34.1% reported spending within the range of Rs 100–500. On the contrary, respondents having university-level education exhibit higher spending patterns, with 24.2% allocating Rs 1001–2000 weekly and 14.4% spending within the Rs 2001–5000 bracket. Respondents with secondary education display a similar trend, with 31% spending in the Rs 1001–2000 category.

4. Knowledge, Perceptions, and Attitudes Regarding Tobacco Use

4.1. Awareness of Tobacco Harm

The findings revealed a **remarkably high overall acknowledgment** of the harmful effects of smoking (93.4%) and tobacco use (93.4%) among respondents, with only a small proportion asserting that these habits are not harmful (3.8% for smoking, 4.1% for tobacco). An even smaller fraction remained uncertain (2.8% for smoking, 2.5% for tobacco), indicating that **public recognition of tobacco-related health risks is generally strong**.

"One cigarette can kill you in five minutes. It's like putting a timer on your life." (KAP Baseline In-depth Interview, 2024)

Another participant described tobacco smoking as a direct attack on health, stating:

"Tobacco smoking is a crime against health and well-being, causing cancer, lung diseases, and mental health challenges that devastate lives and relationships." (KAP Baseline In-depth Interview, 2024)

[1] Lysergic acid diethylamide, commonly known as LSD, is a potent psychedelic drug that intensifies thoughts, emotions, and sensory perception.

Education and income were strong determinants of awareness. University-educated individuals reported the highest awareness (95.0% for smoking, 96.2% for tobacco), while those without formal education exhibited lower awareness (87.7%). Similarly, higher-income respondents demonstrated better understanding of tobacco risks. Interestingly, individuals with higher education and income levels demonstrated the greatest awareness of tobacco-related harm; however, they paradoxically showed a higher likelihood of consuming tobacco products, suggesting that awareness alone does not necessarily translate into reduced use.

Respondents' awareness of the connection between smoking and various diseases revealed generally strong recognition, with 87% affirming the link between smoking and health risks. However, 5.7% denied any such connection, and 7.3% were unsure, indicating persisting knowledge gaps.

Respondents' awareness of the connection between smoking and various diseases reveals a generally strong recognition of this association, with 87% affirming the link. Despite the overwhelming majority, there was a small subset of people (5.7%) who denied any such link while 7.3% were unsure. "

The data revealed that only 52.9% of respondents across all regions were aware of where to obtain information about the health hazards related with tobacco use, while 28.6% remained unaware and 18.4% were unsure. This indicates a critical gap in public health knowledge, given the established risks of tobacco use, encompassing cancer of the lungs, COPD, heart diseases, strokes, and respiratory infections.

The survey findings reveal that respondents acquire information about the health risks of tobacco consumption through diverse sources, with **doctors (60.5%)** and **media outlets (53.0%)** emerging as the most common channels.

4.2. Awareness of Tobacco Risks, Cessation Services, and Control Policies

The analysis reveals limited public awareness regarding local health facilities offering addiction cessation services. Overall, only 32.1% of respondents reported knowing about such facilities, while 44.3% were unaware and 23.5% remained uncertain, indicating significant informational deficits. Geographical disparities were evident with Islamabad reporting the highest level of awareness at 50.3%, followed by Lahore at 39.4%, while awareness was significantly lower in Rawalpindi (29.5%), Peshawar (26.5%), and lowest in Karachi at 14.3%.

The data highlights a stark deficiency in public awareness of tobacco control policies in Pakistan, with only 4.9% of respondents indicating familiarity with any regulations. Among these, the majority (79.2%) were aware of smoking bans in public places, while significantly fewer recognized restrictions on sales to minors (18.2%) or the ban on *mawa* and *gutka* in Karachi (2.6%).

Reflecting on policy effectiveness, a participant noted:

"Despite higher taxation on cigarettes, smoking didn't decrease; instead, people switched to cheaper and lower-quality cigarettes." (KAP Baseline In-depth Interview, 2024)

These responses highlight a troubling gap in comprehensive awareness among participants regarding tobacco control measures in Pakistan, with recognition largely concentrated on a single policy while awareness of other important regulations remains significantly limited.

The survey reveals a concerning lack of public awareness regarding resources and support systems for quitting tobacco use. Only 31.0% of respondents knew where to access such support, while 45.6% were unaware and 23.4% were uncertain, indicating substantial informational gaps.

4.3. Perceptions Related to Passive Smoking

The findings demonstrate a **strong overall awareness** of the dangers of passive smoking among respondents. **Three-quarters (75%) acknowledged** that tobacco use is harmful to non-smokers, indicating widespread recognition of secondhand smoke risks. Additionally, **16.7% believed it is harmful to some extent**, while **6.8% remained uncertain**, reflecting partial or limited understanding. A minority (**1.5%**) denied any harmful effects, suggesting persistent misperceptions in a small segment.

As one participant shared:

"Smoking harms everyone around with children and women unknowingly exposed to second-hand smoke, and poisoning the air we breathe." (KAP Baseline In-depth Interview, 2024)

A significant majority (89.8%) affirmed that smoking poses risks to pregnant women and their fetuses, reflecting a well-established understanding of these dangers. However, **4.5% denied such harm**, and **5.7% were unsure**, highlighting gaps in knowledge among a small subset.

The data further revealed widespread recognition of the risks associated with passive smoking in the presence of pregnant women. A substantial majority (84.4%) affirmed that smoking near pregnant women is harmful, reflecting a growing public understanding aligned with medical evidence linking secondhand smoke exposure to low birth weight, preterm birth, and developmental issues (Mahabee-Gittens et al., 2024).

Nevertheless, 7.5% of respondents denied any harm, and 8.1% were uncertain, suggesting that awareness is not universal.

A majority of respondents (72.8%) affirmed that smoking without inhaling is still harmful to the body, reflecting a strong baseline awareness of tobacco's inherent risks, regardless of inhalation technique. This suggests an encouraging general understanding of smoking dangers even if detailed knowledge of physiological mechanisms is lacking.

However, 13.5% of the respondents considered smoking without inhaling unharmful, while the 13.7% remained uncertain. This showcases persistent misconceptions among a significant minority, emphasizing an area requiring targeted health education interferences.

4.4. Barriers to Shifting from Traditional to Safe Alternatives of Tobacco Products

The analysis shows that the transition of the respondents is hampered by intricate and multidimensional barriers that include social, informational, psychological, and economic elements, even though half of the respondents (50%) expressed an openness to investigating alternative tobacco methods, indicating a moderate inclination towards change and experimentation.

Half of the respondents (50.7%) expressed that they were unaware of their options, which was the most cited barrier. This research highlights a significant knowledge gap that stops people from thinking about harm reduction measures. Users are less likely to alter their behavior and attitudes if they do not have sufficient knowledge or understanding of the available alternatives and their advantages, which highlights the urgent need for targeted education campaigns and information dissemination.

Affordability and availability were both identified as significant practical obstacles, impacting 42.9% of those surveyed. Access challenges are compounded by affordability concerns (25.5%), especially among lower-income groups, suggesting that even where alternatives are available, their perceived high cost deters usage. This underscores the pertinence of market-based interventions and pricing strategies for the betterment of affordability and distribution of alternatives.

The concerns of safety and efficacy were expressed by 15.6% of the respondents, mirroring skepticism towards the reliability and impacts on health, or long-term effectiveness of the alternative products. This indicates a trust deficit that could be addressed through evidence-based awareness campaigns, regulation, and endorsement by credible health institutions.

Social stigma was also identified as a significant deterrent by 9.8% of participants. The persistence of societal perceptions favoring traditional tobacco use over alternatives suggests that social acceptance and normalization are crucial in facilitating a transition towards safer products.

Psychological barriers were prevalent, with 30.9% citing addiction as a key factor and 13.5% indicating the urge to hold a cigarette as an obstacle. These responses highlight the entrenched behavioural habits and ritualistic aspects of tobacco use, implying that cessation support systems, behavioural therapy, and counselling interventions are integral to overcoming such internal barriers.

4.5. Factors Leading to Tobacco Use Initiation

The findings reveal that initiation of tobacco and other substances among respondents is driven by a combination of societal, psychological, and economic agents.

Peer influence was the most common driver, with 37.8% citing it for tobacco use initiation and 55.9% for general substance use, reflecting the strong role of social networks across both rural and urban areas.

"Boys smoke because it creates a style. It's a way to fit in," explained one respondent, reflecting on how social pressures shape smoking behaviour. (KAP Baseline FGD)

Stress relief and emotional coping were reported by 30.9% for tobacco and 32.3% for other substances, particularly among transgender people and those with lower income and education, indicating that use often serves as a coping mechanism for distress.

"Some respondents believe that tobacco helps release stress, with smoking a cigarette at night seen as a way to unwind after a hard day's work." (KAP Baseline In-depth Interview, 2024)

Experimentation motivated 21.6% of tobacco users and 33.2% of general substance users, especially younger and higher-income groups, reflecting curiosity-driven initiation. Some (29.7%) viewed substance use as fun or exciting, while perceived empowerment (3.5%) linked tobacco use to control, rebellion, or self-expression.

Family influence accounted for a small proportion (0.9%) of tobacco initiation, reflecting intergenerational patterns, and media influence was cited by 5.1% for tobacco and 14.7% for substance use, indicating its secondary yet notable role.

Additionally, financial stress (25.9%), family problems (28.6%), and the need for social recognition (8.7%) contributed to substance use initiation, while analysis by income showed higher peer pressure and experimentation rates among wealthier and more educated respondents.

These findings underscore that initiation is shaped by an interplay of peer pressure, emotional distress, curiosity, economic challenges, and social acceptance, highlighting the need for multi-dimensional prevention and harm reduction strategies.

The results presented in this chapter yields critical gaps in access, awareness, and perceptions enframing tobacco use and termination among marginalized segments in Pakistan. The findings highlight the urgency for targeted, culturally sensitive, and multi-sectoral mediations to cater these challenges efficiently. The following Discussion chapter will interpret these findings, contextualized by the existing literature to derive policy implications and practical strategies for strengthening tobacco cessation efforts in Pakistan.

5. Recommendations

The health risks of tobacco consumption are widely acknowledged by the marginalized populations in Pakistan, which include a wide intersection of age groups, genders, and religious backgrounds. Despite this, only 36.1% (n=566) of those surveyed have attempted to cut back on tobacco use or stop smoking, and the majority of these attempts have ultimately remained unsuccessful. Notably, only 4.9% (n=77) of respondents were aware of current tobacco control policies, while 32.1% (n=504) of the respondents were aware of nearby health facilities aiding for quitting smoking. Moreover, only 31% (n=486) knew about the resources or assistance that were available to help people quit smoking.

These barriers were exacerbated by the widespread impression, as revealed by interviews with media representatives and medical experts, that e-cigarettes and Velo pouches are just as dangerous as traditional cigarettes, if not more harmful. This misperception hinders the promotion of harm reduction products for smokers seeking assistance for quitting, as was also noted in focus groups with medical professionals.

There are several different obstacles that marginalized smokers must overcome in order to quit. On the one hand, there is a notable dearth of knowledge regarding various available cessation services, and on the other hand, there is a substantial knowledge gap about alternative nicotine delivery products, which worsens due to the long-standing skepticism among medical professionals. This trap marginalized smokers in a vicious cycle in their fight to stop.
The study concludes the urgent need for detailed and multifaceted mediations that challenge the social, structural, and psychological, obstacles to tobacco cessation. According to the data, factors like peer pressure, stress management, and ignorance continue to be major elements propagating tobacco consumption and barriers to cessation, especially for the marginalized, lower-income, and less educated populations.

- **Regular Training Sessions for Healthcare Providers**
  Organize regular training sessions to equip healthcare providers with skills in motivational interviewing, counseling methods, nicotine replacement therapies (NRTs), and management of mental health aspects of tobacco users. By fostering an environment of understanding and support, providers will be better prepared to meet the unique challenges faced by women, transgender people, and youths, leading to improved cessation outcomes.
- Formulate comprehensive IEC (Information, Education, and Communication) materials comprising of detailed guidelines, visual aids, and culturally tailored digital tools like e-learning modules. This will improve the ability of providers to encourage and involve diverse populations in their efforts to tobacco cessation efforts.
- Map out cessation services thoroughly to identify coverage gaps, specifically in underserved and rural areas. Achieve improved service accessibility and targeted outreach by working with local authorities and community leaders to raise awareness of the available resources.
- Initiate extensive awareness campaigns to explain the distinctions between tobacco and nicotine as well as between cessation tools such as e-cigarettes and NRTs. To enhance motivation to quit, conduct campaigns in conjunction with pharmacies and providers, disseminate scientific data on the benefits and hazards, and use incentives and messaging that are specifically tailored for specific demographic groups.
- Inculcate online platforms, wearable technology, and apps in conventional counseling techniques to provide social support networks, interactive content, and individualized quitting strategies. This will enhance engagement by utilizing AI and data analytics, and ongoing improvement in cessation outcomes will be ensured by routine evaluation of this apparatus.
- Provide individualized counseling, involve family members in the cessation efforts, teach smokers stress management strategies and smoking-related social norms, and put incentivized programs in place to recognize and celebrate the success stories. This comprehensive strategy will lessen smoking triggers and aid people in their tobacco cessation efforts. implement incentive programs to reward milestones.

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