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Research Paper: Pathological Analysis of Smoking Prevalence in Rural Communities (Case Study: Kermanshah Province, West of Iran)

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ABSTRACT

Purpose: Smoking prevalence is pervasive across all regions of Iran, including rural areas. Consequently, developing strategies for reducing smoking in rural communities is imperative. Hence, this study presented a pathological analysis of the factors contributing to smoking prevalence in rural areas of Kermanshah province.

Methods: This study employs a mixed-methods approach, combining quantitative and qualitative methodologies. The qualitative research method adopted an interpretive paradigm and utilized grounded theory. A sample size of 45 individuals was determined through purposive sampling until saturation was achieved. The participants were categorized into two groups: villagers, members of Islamic councils, and officials and experts in tobacco control. Sampling was facilitated using the snowball sampling technique. The research design incorporates qualitative and quantitative components, employing descriptive and analytical approaches. The statistical population consisted of 417 individuals, with a sample size of 212 people selected from nine villages within Kermanshah province using Cochran's formula. Systematic random sampling was employed in the village setting.

Results: Our findings revealed that smoking prevalence in rural communities can be attributed to five primary cultural and social factors, economic influences, infrastructural items, urban-rural dynamics, media impact, and factors associated with health and education. Effective strategies include educating residents, expanding healthcare services, developing infrastructure, creating employment opportunities, addressing rural deprivation, and fostering a culture of non-smoking to mitigate tobacco consumption in rural areas. Furthermore, Spearman's correlation analysis indicated a significant relationship between smoking prevalence and the seven mentioned components. These items significantly impact the prevalence of smoking in rural areas.

Conclusion: Misconceptions regarding the absence of tobacco in villages, skepticism toward medical science, and limited educational attainment pose significant challenges to tobacco reduction programs in rural areas. Moreover, government negligence and insufficient investment by public institutions contribute to the smoking prevalence.

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1. Introduction

Tobacco consumption has become a significant global health concern, contributing to illness, disability, and early mortality worldwide (Mohammadi et al., 2016: 127). According to the World Health Organization (WHO), approximately one billion individuals smoke cigarettes, consuming 60 trillion cigarettes globally (Rezakhani et al., 2013: 107). Smoking rates vary across different regions, with developed countries like European nations reporting a 40% prevalence among men and 20% among women. In South Asia, these rates are 35% among men and nearly 5% among women. Furthermore, African countries exhibit a consumption rate of 13% among men and 3% among women (Yousefei et al., 2014: 490). Concerningly, nearly a quarter of Iran's population aged 15 to 64 consumes tobacco, with a particular increase observed among women and teenagers (Sharif et al., 2014: 22). Several studies have indicated an increasing trend of smoking prevalence among teenagers and young adults in both developed and developing countries (Madani et al., 2016: 42). Furthermore, there is evidence suggesting a decreasing age of initiation into smoking. It has been observed that a substantial proportion of adult smokers initiate smoking during their adolescence, with many starting before the age of 18 (Adams et al., 2018: 699). Notably, individuals who begin smoking younger are more likely to continue this habit into adulthood (Ahmadizadeh et al., 2015: 64).

Within Iran, hookah consumption represents a distinct pattern of tobacco use prevalent in Iran and several Arab countries. Notably, many individuals do not perceive hookah use as a harmful behavior. Teenagers and young adults are particularly vulnerable to tobacco use compared with other social groups due to identity crises, psychological challenges arising from social issues, adventurousness, pleasure-seeking, diversification, and peer influence (American Psychiatric Association, 2013). Moreover, statistics reveal a significant increase in drug use among various communities (American Psychiatric Association, 2013), especially among students, with nicotine being the most commonly abused substance (Benuck et al., 2013: 80). Experts consider nicotine to be more addictive than heroin, cocaine, and marijuana (Delnevo et al., 2011: 480). Numerous studies have established a significant correlation between personality traits and drug use.

Contrary to popular belief, tobacco consumption is prevalent in rural areas, with hookah use surpassing cigarette use, especially among rural women (Bal et al., 2019: 410). Hookah use, particularly in coffee houses, is not associated with negative connotations; instead, it is regarded as a cultural tradition within rural communities. Kermanshah province is no exception to this trend. In some rural areas, where severe winter weather conditions lead to road closures for several days or weeks, hookah is perceived as a means for locals to warm their chests, fueling political, social, and cultural debates.

Smoking constitutes a leading cause of morbidity and mortality due to chronic diseases worldwide (Cockeram et al., 2017: 9). It encompasses inhaling smoke and chewing various tobacco products. Substantial financial resources are allocated annually to prevent and treat smoking-related illnesses (Bashirian et al., 2019:225). The WHO estimates that health systems worldwide bear costs exceeding 100 billion dollars each year (World Health Organization, 2020). Smoking contributes to the development of numerous chronic diseases. Initiating tobacco use during adolescence carries risks and adverse effects, such as the potential for continued smoking into adulthood, heightened damage to vital organs, and negative socioeconomic consequences (Wang et al., 2019: 755). Factors influencing tobacco consumption across different age groups, particularly adolescents, include age, gender, family income, knowledge, attitudes, preventive skills, as well as environmental factors like exposure to secondhand smoke, access to tobacco, and tobacco industry advertisements (Nazarzadeh et al., 2013: 2215).

Various studies have identified several influential factors in the initiation and continuation of tobacco use among rural communities. These factors include easy access to tobacco products, peer influence, exposure to advertisements, and secondhand smoke (Doku et al., 2019: 647).

Additionally, age, gender, family income, knowledge, attitudes, preventive skills, and environmental factors such as exposure to secondhand smoke, access to tobacco, and tobacco industry advertisements are known to impact tobacco consumption across different age groups (Gholamalizadeh et al., 2018: 91).

2. Literature Review

In a study conducted by Hakim and Chavdari (2018) in Bangladesh, it was found that there is a significant correlation between the intention to quit smoking and the presence of indoor smoking regulations and exposure to anti-smoking advertisements.

Moreover, Golam Ali Zadeh (2018) conducted a research study titled "Delineation of personality traits among smoking students and a comparative analysis with non-smoking students in Tehran universities." The findings revealed a significant difference between the two groups, comprising male students who engage in cigarette and hookah usage versus those who do not, across 12 out of 16 factors and personality traits. These findings can serve as essential predictors in understanding the inclination towards smoking, and they can guide the development of comprehensive preventive programs aimed at reducing harm and promoting well-being and empowerment among students.

Ahmadizadeh Fini et al. (2015) explored the smoking status among the 46-51-year-old population in urban and rural areas of Hormozgan province. The study found that women in rural areas use hookah twice as much as men.

Nasirzadeh et al. (2018) conducted a descriptive study titled " Tobacco use situation among adolescents in Qom city and its relationship with exposure to secondhand smoke and other influential factors in 2018; A descriptive study." The authors emphasized the importance of implementing policies to reduce secondhand smoke exposure and limit tobacco access. These measures can effectively prevent adolescent tobacco use and contribute to overall tobacco control efforts.

Yavari Bafghi et al. (2023) conducted a study titled "Investigation of the state of sports facilities and therapists' view of sports in addiction treatment and rehabilitation centers." The authors argue that the expansion of sports facilities and the involvement of professional trainers and therapists play a crucial role in reducing addiction, including drug and tobacco addiction.

The current literature review reveals a limited number of studies that have examined the prevalence of smoking in rural areas. Therefore, this study contributes new insights by investigating the prevalence of smoking specifically in rural communities, aiming to address the research gap in this area. The findings underscore the significance of tobacco use in rural areas and highlight the need for comprehensive planning and intervention by authorities to control tobacco consumption effectively. Hence, the primary objective of this study is to explore and analyze the underlying factors contributing to the prevalence of smoking within rural communities in Kermanshah province.

Furthermore, Sedaghat et al. (2023) suggest that macroeconomic and social indicators have long-term impacts on drug-related mortality in Iran, a pressing social issue. Specifically, the authors note that drug-related mortality has increased with the growth of the gross domestic product (GDP) and literacy rates. At the same time, they have decreased with the growth of the urban population and the unemployment rate.

3. Methodology

The research methodology employed in this study incorporates both qualitative and quantitative approaches, utilizing a mixed methods research design.

The study method is qualitative and practical that uses the grounded theory method. In this research, indicators were extracted using the methods mentioned in the validity and reliability section of the interview card. Hence, the content analysis of the studies conducted at the world level, the country, and the world were analyzed, and the relevant indicators were extracted. Subsequently, using the interview card designed for the interviewed groups from among all the indicators and the extracted components, indicators of the study were extracted. Then, they were filtered by the initial interview card of the pre-test stage and used in the final interview card.

Accordingly, in the present study, participants were first selected;

First, through qualitative research, the conceptual Model of the research was identified. The research methodology is based on the qualitative interpretive paradigm and uses the grounded theory method. Furthermore, the study is conducted as a practical method in terms of purpose.

The data collection tool is an in-depth interview. The sample size was determined based on the situational sampling method (reaching the saturation point), conducted via the snowball method. The sample and statistical population include the following:

The study included the following participants:

1. Villagers residing in villages where smoking prevalence is prominent.

2. Managers and officials actively involved in tobacco control efforts within the province.

3. University professors and researchers specializing in the research subject.

Excel software was employed by the individuals above during data analysis. To enhance the findings' reliability, internal validity, and external validity, the researcher implemented peer review processes, employing techniques such as triangulation and providing a comprehensive and detailed presentation of the research work and data in the research report (Table 1).

Table 1 presents the list of studied villages.

The research findings presented herein were derived from a total of 30 interview sessions. During this stage, the data obtained from the interview texts were analyzed. The initial step involved transcribing the complete interview transcripts from the recorded audio files. These transcripts were frequently reviewed, with careful note-taking conducted. The collected data content was analyzed, involving a three-stage classification encompassing open, axial, and selective coding. A diagram depicting the theory formation can be observed in Figure 1.

The employed research methodology in this study is a quantitative approach characterized as descriptive, analytical, non-experimental, and survey-based, utilizing a questionnaire as the primary data collection tool. The target population comprises rural households. The selection criteria for villages were twofold: firstly, an effort was made to include one village from each city, and secondly, a village with the highest smoking prevalence was chosen. The unit of analysis for this study was at the household level. Cochran's formula determined the appropriate sample size, resulting in 212 households. The sampling technique was systematic random sampling., Cronbach's alpha coefficient was computed and assessed to ensure the reliability of the questionnaire (Table 2). The experts in social sciences, sociology, and rural geography provided their expertise for validity evaluation. The statistical methods utilized in this study encompass descriptive statistics such as mean and percentage and inferential statistics, including Spearman's correlation and regression analysis.

The sample and statistical population include people from the villages of Kermanshah province (Table 3).

Table 4 shows the research indicators.

Table 1. Participants in the research

County	Villages
Pave	Shamshir
Kermanshah	Vermanje
Sahne	Parian
Islam Abad	Shian
Sanqar	upper Charme
Harsin	Nozhi Varan
Ghasr Shirin	Quick
Gharb Karand	Harir
Salas Babajani	Derne

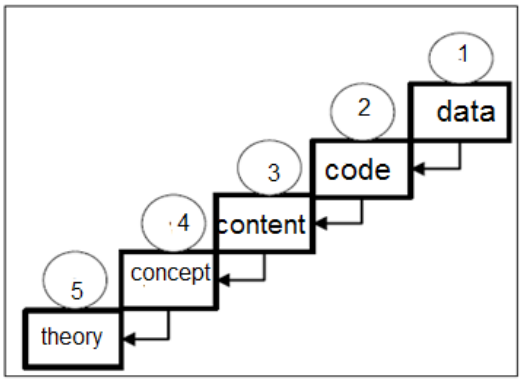

Figure 1. Diagram depicting the process of theory formation

Table 2. Research Reliability

Item	Alpha coefficient	Suitable/unsuitable
Cultural and social	0.88	Suitable
Economic	0.71	Suitable
hygiene	0.76	Suitable
Infrastructure	0.83	Suitable
Urban-rural relations	0.89	Suitable
Education	0.70	Suitable
Media	0.72	Suitable
Average	0.78	Suitable

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Table 3. Participants in the research

County	Villages	Sample Size
Pave	Shamshir	25
Kermanshah	Vermanje	32
Sahne	Parian	28
Islam Abad	Shian	18
Sanqar	upper Charme	12
Harsin	Nozhi Varan	11
Ghasre Shirin	Quick	34
Karand Gharb	Harir	32
Salas Babajani	Derne	20

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Table 4. Research indices

Items	Indicators
Sociocultural	The use of tobacco by the elderly, the smoking justification by the cold weather and the effects of tobacco use on reducing colds, the sense of pride that tobacco use evokes in young people, the presence of a particular intellectual feeling in users, the culture of hookah use in coffee houses as a local historical and traditional culture, the belief in otherworldly things such as the idea that death is determined by God and the neglect of personal health, the decline of spirituality among young people, the indifference of authorities to social issues in rural areas, the unwillingness of villagers to help tobacco addicts and their isolation, the failure of families to monitor their children, low cultural level, the mistaken belief that there are no tobacco addicts in rural areas, and subsequently the lack of investment in rural health care
Economic	Seasonal unemployment of rural residents, especially farmers, the high costs of quitting tobacco, seasonal migration to urban areas, unemployment and poverty, particularly among young people, and the high expenses of treating addiction to substitute substances for tobacco, economic difficulties lead to a tendency on tobacco.
Infrastructural	The presence of children in boarding schools and separation from their families, deprivation, and isolation in rural areas, lack of adequate medical and healthcare facilities in rural areas, neglect of rural areas by health planners and a greater focus on urban areas, lack of investment in tobacco control management in rural areas, lack of tobacco quitting centers in rural areas, shortage of sports and cultural centers.
Urban-rural relations	The urbanism phenomenon and its influence on cigarette consumption among young individuals, the relationship between youth and urban environments, the impact of tourists and non-local residents on the prevalence of tobacco use, the proliferation of purchasing behaviors within urban areas, particularly about tobacco products
Media	The proliferation of media and social networks, limited access to educational and medical television networks, the lack of media coverage on the issue of tobacco prevalence in rural areas, low literacy rates, and limited internet access for accessing health education materials.

Table 4. Research indices

Items	Indicators
Sanitary	The limited presence of healthcare and medical education institutions due to a lack of specialized physicians, the failure to diagnose many tobacco-related deaths, the absence of nicotine patches and electronic cigarettes, the absence of medical and sanitary classes for rural populations, and the scarcity of healthcare centers and clinics
Education	The lack of belief and trust in medical recommendations, the presentation of few examples of healthy individuals who are tobacco users, the absence of shameful sense about the harmful effects of hookah smoking especially among elderly women, the mistaken perception of the benefits of hookah using for the elderly, the ready availability of tobacco products in all shops and supermarkets, inadequate advertising in rural areas to reduce tobacco consumption, lower education levels among rural populations compared to urban areas, distrust of government advertisements even in healthcare matters, limited access to media and lack of education, particularly in some mountainous villages
Prevalence of smoking	The sales volume of tobacco products in rural areas, the prevalence of tobacco use among young individuals, the extent of negative advertising regarding tobacco, the monthly expenses on tobacco consumption, the level of government investments for tobacco reduction in rural areas, government programs and public institutions' initiatives for tobacco reduction, private sector activities for tobacco reduction, voluntary group actions in rural areas to reduce tobacco use, the efforts of local village councils and Islamic councils to combat tobacco use, the level of access to classes and cessation programs for tobacco quitting.

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4. Findings

The characteristics of the participants in this study were analyzed using descriptive data analysis. The statistical community was divided into two groups: activists, local officials, experts, and investors.

The research findings were derived from a total of 15 interview sessions. The information gathered from the interview transcripts was thoroughly analyzed during this phase. Initially, the complete text of the interviews was transcribed from the audio recordings, followed by multiple reviews and note-taking. The collected data were subsequently subjected to content analysis, which involved a three-stage process: open, axial, and selective coding.

Open coding: During the open coding stage, the data were systematically analyzed on a line-by-line basis, with each sentence being examined to identify underlying processes and assign a corresponding code. This study extracted the leading sentences and assigned specific codes for open coding. Codes of "D" denote opinions expressed by villagers and local officials, while codes of "M" were used for officials and tobacco workers within the province. Table 21 illustrates the coding process. During the open coding phase, each outcome raised by the participants was assigned a code, ensuring that all the data were adequately categorized (Table 5).

Axial coding: Axial coding establishes relationships among the generated categories during the open coding stage. This process is typically conducted based on the paradigm model and facilitates the theorizing process for the researcher. The relation basis in this coding type relies on the expansion of one of the categories. A main category, which can be considered a central idea or event, is defined as a phenomenon, while other categories are linked to this main category. Within axial coding, causal conditions are identified as cases and events that contribute to the emergence and development of the phenomenon. Context refers to a specific set of conditions, while intervening conditions encompass a broader range of circumstances in which the phenomenon is situated. Action or confrontation strategies pertain to the actions and responses due to the phenomenon. Lastly, the desired or undesired outcomes resulting from these actions and responses are consequences. In this study, axial coding was conducted based on interviews with individuals relevant to the pathology of tobacco control, including two groups: villagers and officials and those involved in tobacco control. The findings revealed that five categories—cultural and social factors, economic factors, infrastructural factors, city-rural relations, and media, health, and education factors—play a significant role in the harm caused by smoking (Table 6).

Selective coding: Selective coding is associated with integrating and improving categories. In this stage, the theoretician developed a theory that explains the relationships between categories identified during the axial coding process based on Grounded Theory. At its primal level, this theory provides an abstract description of the process under investigation in the research. The process of integration and improvement occurs through various techniques employed in selective coding, such as constructing a storyline that connects categories and through personal notes on theoretical ideas. In a storyline, the

researcher examines how specific factors influence the phenomenon and lead to adopting particular strategies with specific outcomes. In other words, selective coding builds upon the findings from the earlier coding stages by selecting the central category and systematically establishing connections with other categories. Furthermore, it validates these relationships and enhances categories that require further development and improvement. Consequently, category-oriented analysis becomes crucial for integrating and improving categories (Tables 7 & 8).

Table 5. Initial coding extracted from the interview

No.	Pathology of Tobacco Consumption in Rural Communities of Border Regions: A Case Study in Kermanshah Province	Extraction code
	The use of tobacco by elders	D
	Justification due to cold weather and the impact of tobacco use on reducing cold susceptibility	D
	Lack of belief and trust in medical recommendations	D
	The hookah consumption culture in coffee houses as a local historical and traditional culture	D
	Seasonal unemployment of villagers and especially farmers	D
	Belief in otherworldly matters such as death can be determined by God and disregard for personal health.	D
	The lack of dome and the ugliness of hookah use, especially among elderly women	D
	The misconception that hookah is helpful for the elderly	D
	Attendance of children in boarding schools and being separated from family	D
	The connection of young people with the city environment	D
	Expansion of media and social networks	D
	Declining spirituality among young people	D
	Deprivation and isolation of villages	D
	Neclectance of the officials to the village's social issues	D
	Insufficient presence of health institutions and medical education	D
	The unwillingness of villagers to help people addicted to tobacco and their isolation	D
	High costs of quitting smoking	D
	Availability of tobacco products in all shops and supermarkets	D
	Failure of families to supervise their children	D
	The impact of tourists and non-local people on the prevalence of smoking	D
	Lack of proper advertising in villages to reduce smoking	M
	The low level of education of rural people compared to urban people	M
	Distrust of government advertisements, even in medical matters	M
	Lack of proper medical and treatment facilities in the villages	M
	Limited access to the media and lack of education, especially in some mountain villages	M
	Neglect of health planners in the village and more attention to the cities	M
	Low cultural level	M
	Lack of investment in tobacco management in villages	M
	The misconception that there are no smokers in the villages and, consequently, not investing in rural health	M
	Many deaths caused by smoking are not diagnosed due to the lack of professional doctors.	M
	Lack of sports and cultural centers	M
	Unemployment and poverty, especially among the youth	M
	Lack of smoking quitting equipment in villages	M
	Lack of smoking quitting centers in villages	M
	Lack of access to educational and medical TV channels	M
	The lack of coverage of the problem of the prevalence of smoking in villages by the media	M

Table 5. Initial coding extracted from the interview

No.	Pathology of Tobacco Consumption in Rural Communities of Border Regions: A Case Study in Kermanshah Province	Extraction code
	Low per capita study	M
	Seasonal migrations to cities	M
	Lack of nicotine patches and electronic cigarette	M
	Expansion of shopping in the city, especially tobacco	M
	Limited access to the Internet to use health education	M
	Expensive cost of drug addiction treatment	M
	Economic problems lead to the tendency to tobacco	M
	Lack of medical and health classes for rural people	M
	Few health centers and clinics	M

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Table 6. Axial coding of interviewees

Items	Axial codes
Cultural- social	Use of tobacco by the elders
	The justification for smoking caused by the cold air and the effect of smoking on the reduction of colds
	The sense of pride caused by smoking among young people
	Having intellectual sense among consumers
	The hookah consumption culture in coffee houses is a local historical and traditional culture.
	Belief in otherworldly matters such as death is determined by God and disregard for personal health.
	Declining spirituality among young people
	The officials neglect the social problems of the villages.
	The unwillingness of villagers to help people addicted to tobacco and their isolation
	Unsupervision of families to their children
	Low cultural level
	The misconception that there are no smokers in the villages and, consequently, not investing in rural health
Economic	Seasonal unemployment of villagers and especially farmers
	High costs of quitting smoking
	Seasonal migrations to cities
	Unemployment and poverty, especially among the youth
	Expensive cost of drug addiction treatment
	Economic problems lead to taking refuge in tobacco.
	Attendance of children in boarding schools and being separated from family
Infrastructure	Deprivation and isolation of villages
	Lack of proper medical and treatment facilities in the villages
	Neglect of health planners in the village and more attention to the cities
	Lack of investment in tobacco management in villages
	Lack of smoking cessation equipment in villages
	Lack of smoking quitting centers in villages
	Lack of sports and cultural centers
Urban-rural relations	The sense of urbanization of smoking among young people
	The connection of young people with the city environment
	The impact of tourists and non-local people on the prevalence of smoking
	Expansion of shopping in the city, especially tobacco

Table 6. Axial coding of interviewees

Items	Axial codes
Media	Expansion of media and social networks
	Lack of access to educational and medical TV channels
	The coverage lack of the smoking prevalence issue in villages by the media
	Low per capita study
	Limited access to the Internet to use health education
Sanitary	Poor presence of health institutions and medical education
	Many deaths caused by smoking are not diagnosed due to the lack of professional doctors.
	Absence of nicotine patches and electronic cigarette
	Lack of medical and health classes for rural people
	Few health centers and clinics
Education	Lack of belief in medical advice
	Presenting a few examples of consuming and healthy people
	The lack of shameful sense about hookah use, especially among elderly women
	The misconception that hookah is helpful for the elderly
	Availability of tobacco products in all shops and supermarkets
	Lack of proper advertising in villages to reduce smoking
	The low level of education of rural people compared to urban people
	Distrust of government advertisements, even in medical matters
	Limited access to the media and lack of education, especially in some mountain villages

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Table 7. Selective coding process from the perspective of villagers

Codes	Number
Using tobacco products by the elderly	14
The smoking justification due to the cold air and its effect on the reduction of colds	15
Lack of belief in medical recommendations	12
Presenting a few examples of consuming and healthy people	13
The sense of pride caused by smoking among young people	15
The sense of urbanization of smoking among young people	18
The intellectual sense among consumers	22
The existence of hookah consumption culture in coffee houses as a local historical and traditional culture	23
Seasonal unemployment of villagers and especially farmers	14
Belief in otherworldly matters such as death is determined by God and disregard for personal health	15
The lack of ugliness sence caused by hookah use, especially among elderly women	14
The misconception that hookah is helpful for the elderly	18
Attendance of children in boarding schools and being away from family	19
The relationship of young people with the city environment	8
Expansion of media and social networks	9
Declining spirituality among young people	7
Deprivation and isolation of villages	6
Neglect of the officials to the social issues associated with villages	14
Low presence of health institutions and medical education	11
The unwillingness of villagers to help people addicted to tobacco and their isolation	10

Table 7. Selective coding process from the perspective of villagers

Codes	Number
High costs of quitting smoking	12
Availability of tobacco products in all shops and supermarkets	17
Unsupervisionof families on their children	19
The impact of tourists and non-local people on the prevalence of smoking	11

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Table 8. Selective coding from the point of view of officials

Codes	Number
Lack of proper advertising in villages to reduce smoking	22
The low level of education of rural people compared to urban people	21
Distrust of government advertisements, even in medical matters	23
Lack of proper medical and treatment facilities in the villages	24
Limited access to the media and lack of education, especially in some mountain villages	2
Neglect of health planners in the village and more attention to the cities	13
Low cultural level	18
Lack of investment in tobacco management in villages	11
The misconception that there are no smokers in the villages and consequently not investing in rural health	15
Many deaths caused by smoking are not diagnosed, due to the lack of specialist doctors	17
Lack of sports and cultural centers	4
Unemployment and poverty, especially among the youth	8
Lack of smoking quitting equipment in villages	9
Lack of smoking quitting centers in villages	7
Lack of access to educational and medical TV channels	8
The lack of coverage of the problem of the prevalence of smoking in villages by the media	11
Low per capita study	12
Seasonal migrations to cities	15
Absence of nicotine patches and electronic cigarette	18
Expansion of shopping in the city, especially tobacco	11
Limited access to the Internet to use health education	12
Expensive cost of drug addiction treatment	12
Economic problems lead to the tendency to tobacco	11
Lack of medical and health classes for rural people	21
Few health centers and clinics	22

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Paradigm model: The paradigm model design is a significant strategy within qualitative research, particularly in data-based theorizing. Data integration plays a crucial role in Grounded Theory. During the open coding phase, the analyst develops categories and identifies their characteristics, subsequently exploring how these categories evolve across specified dimensions. In axial coding, categories undergo systematic refinement and are connected to subcategories. The final stage of coding involves selective coding and the presentation of the research paradigm model.

Low cultural levels, unemployment, and isolation are the primary causes of smoking in these communities. Furthermore, economic and social challenges form the foundation for increased smoking prevalence in villages. The expansion of city-rural relations, the growth of tourism, the performance of local officials, and the neglect

of villages as areas needing intervention contribute to heightened concerns and exacerbate the situation.

Several measures are proposed to address this problem effectively, including educating the local population, expanding health services, developing infrastructure, generating employment opportunities, alleviating deprivation in villages, and fostering a cultural environment conducive to positive change.

Neglecting tobacco control in villages can lead to various issues, including the proliferation of respiratory problems, rising costs, the spread of skin diseases, social conflicts, and increased violence.

Table 9 provides insights into the influence of sociocultural factors on the prevalence of smoking in rural areas, illustrating a pathological model of smoking prevalence. Critical social and cultural factors significantly contribute to smoking prevalence in rural communities. The role of elders and traditional beliefs, the supernatural perspective, and the lack of belief in modern medical science play a substantial part in shaping attitudes towards smoking in villages, contributing to the perception among villagers that smoking does not threaten their health. Furthermore, fatalistic beliefs reinforce the notion that smoking-related health risks are inevitable and beyond individual control.

The findings presented in Table 10 highlight various challenges individuals in rural areas face when attempting to quit smoking. These challenges include poverty, unemployment, economic issues, and the high cost of quitting smoking. These factors contribute to the difficulty and costliness of quitting the habit.

Inadequate infrastructure, encompassing educational facilities, healthcare services, and the socioeconomic isolation of villages, alongside the neglect of rural populations' health, has contributed to a notable prevalence of smoking within these communities. Moreover, the lack of dedicated addiction treatment centers has posed a significant barrier for individuals seeking to quit smoking, impeding their efforts (Table 11).

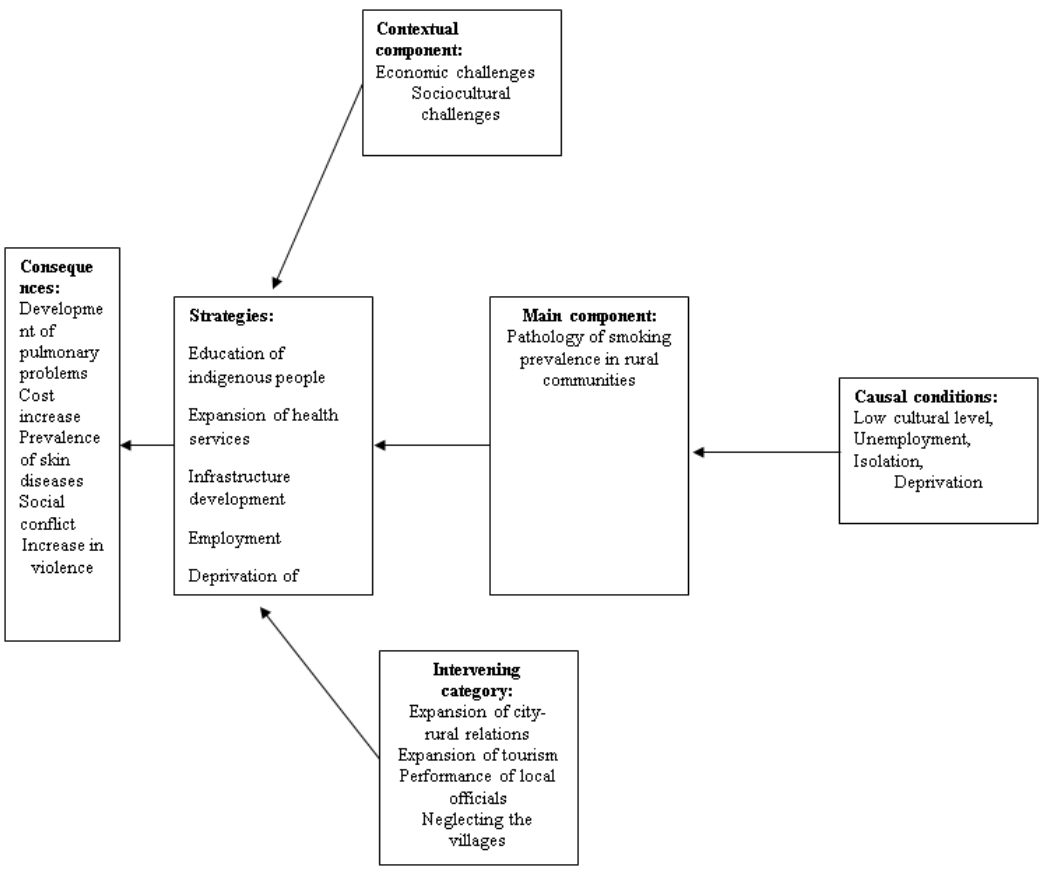

Figure 2. Pathological Model of smoking prevalence

Table 9. Sociocultural factors and smoking prevalence in villages

Items	Average	Attitude
Use of tobacco by the elders	3.5	High
The smoking justification due to the cold air and the effect of smoking on the reduction of colds	2.7	High
The sense of pride caused by smoking among young people	3.7	High
The intellectual sense among consumers	2.9	High
The existence of hookah consumption culture in coffee houses as a local historical and traditional culture	2.9	High
Belief in otherworldly matters such as death determined by God and disregard for personal health	3.1	High
Declining spirituality among young people	4.3	High
Neglect of the officials to the social problems of the villages	3.3	High
The unwillingness of villagers to help people addicted to tobacco and their isolation	3.9	High
Unsupervision of families on their children	1.4	High
Low cultural level	3.2	High
The misconception that there are no smokers in the villages and, consequently, not investing in rural health	3.3	High
Use of tobacco by older adults and elders	3.2	High
The smoking justification due to the cold air and the effect of smoking on the reduction of colds	3.4	High
The sense of pride caused by smoking among young people	2.6	High
The intellectual sense among consumers	3.4	High
The hookah consumption culture in coffee houses is a local historical and traditional culture	2.5	Medium
Belief in otherworldly matters such as death is determined by God and disregard for personal health	2.5	Medium
Declining spirituality among young people	3.4	High
Total	3.11	High

Very low; 1…… Very high; 5

JSRD

Table 10. Economic items

Items	Average	Attitude
Seasonal unemployment of villagers and especially farmers	3.4	High
High costs of quitting smoking	2.7	High
Seasonal migrations to cities	2.9	High
Unemployment and poverty, especially among the youth	4.4	High
Expensive cost of drug addiction treatment	3.4	High
Economic problems lead to taking refuge in tobacco	4.3	High
Total	3.51	High

JSRD

Table 11. Infrastructures

Items	Average	Attitude
Attendance of children in boarding schools and being separated from family	2.5	Medium
Deprivation and isolation of villages	3.2	High
Lack of proper medical and treatment facilities in the villages	2.4	Low
Neglect of health planners in the village and more attention to the cities	2.4	Low
Lack of investment in tobacco management in villages	2.6	High
Lack of smoking quitting equipment in villages	2.5	Medium
Lack of smoking quitting centers in villages	3.4	High
Lack of sports and cultural centers	4.4	High
Total	2.92	High

JSRD

The growth of urban-rural interconnections and the expansion of the urbanized mindset has contributed to the prevalence of smoking in rural regions. Consequently, this issue primarily caused the influx of tourists and the dissemination of smoking practices in rural communities (Table 12).

The media holds significant potential to disseminate crucial information regarding smoking-related hazards. However, several challenges impede its effectiveness in rural areas. The limited penetration of media outlets in these regions, along with the absence of local media platforms, undermines the capacity of media to fulfill its role in curbing smoking prevalence. Furthermore, the low per capita study rate in rural areas further diminishes the impact of media efforts in educating and raising awareness among rural populations concerning smoking-related risks (Table 13).

Insufficient availability of health centers and health facilities, inadequate provision of appropriate health and educational programs, and medical specialists exacerbate the neglect of health-related concerns across various domains, particularly regarding tobacco usage. Consequently, no action was taken to control and reduce it and to inform the public about its harm (Table 14).

Education is considered a crucial pillar in addressing tobacco-related issues. However, several factors hinder the effectively spreading of relevant information to rural populations. Firstly, a lack of belief in health recommendations, prevalent misconceptions surrounding certain tobacco products, such as hookah, low literacy rates, high illiteracy among rural communities, and easy accessibility of tobacco products further impede the successful delivery of comprehensive education. Collectively, these factors restrict the availability and effectiveness of education initiatives targeting rural populations in combating tobacco usage.

Table 12. Urban-rural relations

Items	Average	Approach
The sense of urbanization of smoking among young people	2.7	High
The relationship of young people with the city environment	2.8	High
The impact of tourists and non-local people on the prevalence of smoking	1.9	Low
Expansion of shopping in the city, especially tobacco	3.3	High
Total	2.67	High

JSRD

Table 13. Media

Items	Average	Attitude
Expansion of media and social networks	1.8	Low
Lack of access to educational and medical TV channels	3.9	High
The coverage lack of the smoking prevalence issue in villages by the media	4.6	High
Low per capita study	3.2	High
Limited access to the Internet to use health education	4.3	High
Total	3.56	High

JSRD

Table 14. Sanitary

Items	Average	Approach
Insufficient presence of health institutions and medical education	3.2	High
Many deaths caused by smoking are not diagnosed because specialist doctors lack	3.5	High
Absence of nicotine patches and electronic cigarette	1.5	Low
Lack of medical and health classes for rural people	2.6	High
Few home health centers and clinics	3.6	High
Total	3.62	High

JSRD

Table 15. Education

Items	Average	Approach
Lack of belief in medical advice	3.7	High
Presenting a few examples of consuming and healthy people	3.4	High
The lack of shame and ugliness sense of hookah use, especially among elderly women	3.4	High
The misconception that hookah is useful for the elderly	3.5	High
Availability of tobacco products in all shops and supermarkets	3.5	High
Lack of proper advertising in villages to reduce smoking	3.8	High
The low level of education of rural people compared to urban people	4.3	High
Distrust of government advertisements, even in medical matters	3.5	High
Limited access to the media and lack of education, especially in some mountain villages	2.9	High
Total	3.17	High

JSRD

The findings from the Kruskal-Wallis test indicate a statistically significant difference among villages concerning the leading causes and prevalence of smoking across all variables examined. Notably, the researcher's observations reveal that tourist-oriented villages, such as Hajej, exhibit a higher incidence of smoking. Similarly, villages close to Kermanshah demonstrate higher tobacco consumption rates (Table 16).

The Spearman's correlation test results demonstrate that various factors, including social, cultural, economic, educational, health, media, and urban-rural relations variables, significantly influence the prevalence of smoking in rural areas (Table 17).

The findings revealed that considering the determination coefficient of 0.71 obtained from the regression test, the most significant impact on smoking in rural areas was associated with social, cultural, and infrastructural causes (Table 19). In Table 18, the regression fit line and its significance were examined.

Table 16. Comparison of factors affecting smoking in different villages

Independent variable	Kruskal Wallis	Sig
Sociocultural	0.87	0.0
Economic	0.91	0.0
Infrastructure	0.72	0.0
educational	0.89	0.0
sanitary	0.78	0.0
media	0.91	0.0
Urban-rural relations	0.86	0.0

JSRD

Table 17. The relationship between the reduction of smoking and independent variables

Independent variable	Correlation coefficient	Sig
Sociocultural	0.78	0.01
Economic	0.76	0.0
Infrastructure	0.86	0.0
Educational	0.91	0.0
Sanitary	0.79	0.01
Media	0.69	0.02
Urban-rural relations	0.91	0.0

JSRD

Table 18. Anova results

Model	Sum of square	Mean square	F	Sig
Regression	11.62	3.84	6.16	0.001
Residual	72.24	0.62		
total	83.86			

Table 19. Regression

Independent variable	β	B	t	Sig
Constant	1.18	0.23	4.52	0.0
Sociocultural	0.38	0.32	0.096	0.001
Economic	0.22	0.19	3.12	0.0
Infrastructure	0.19	0.32	0.59	0.0
Educational	0.17	0.24	4.72	0.0
Sanitary	0.16	0.22	3.98	0.0
Media	0.15	0.21	2.26	0.0
Urban-rural relations	0.8	0.19	3.92	0.0

Y=1.18++ 0.38X1++0.22X2+0.19 X3+0.17 X4+0.16 X5+0.15 X6+0.8 X7

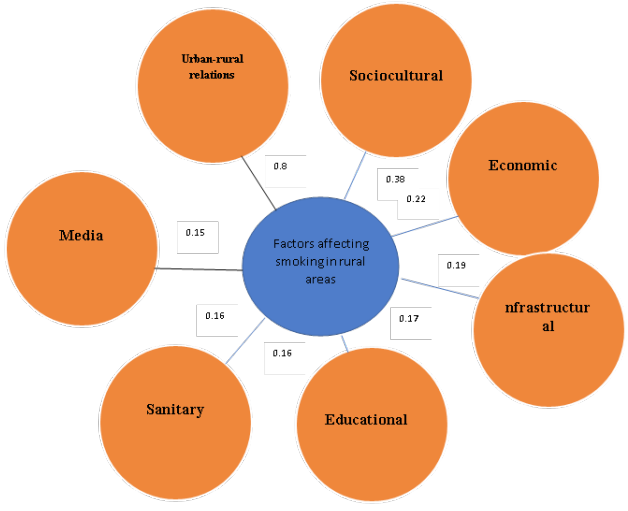

Figure 3. Regression model depicting the factors influencing the prevalence of smoking in rural villages

5. Discussion

This study has investigated the primary factors contributing to the high smoking prevalence in rural communities within Kermanshah province. The findings highlight the widespread nature of smoking in rural areas and identify several vital reasons for its prevalence, including the involvement of elderly individuals, often regarded as local authorities, which poses challenges in addressing smoking-related issues. Moreover, the comparatively limited education among rural villagers, insufficient health and medical education, a lack of trust in medical knowledge, and the negligence or inattentiveness of authorities contribute to the rising prevalence of smoking. Additionally, economic and social challenges such as poverty and unemployment, alongside urbanization factors like tourism, migration, and increased interaction between rural and urban populations, foster the adoption of smoking as a symbol of pride and urbanization, particularly among young individuals. To effectively manage this crisis, it is recommended to employ media advertisements, distribute informative brochures, educate the local populace, develop sports infrastructure,

and address economic challenges. Collaboration and engagement with village elders can also play a pivotal role in significantly reducing smoking prevalence.

Based on this study's findings, the following suggestions are provided to mitigate the prevalence of smoking in rural areas, which being unaware of these issues can cause its prevalence. Seven items affect smoking prevalence in rural areas, including social, cultural, economic, infrastructural, educational, sanitary, media factors, and urban-rural dynamics. The elements above revealed that the low cultural level, fatalism, skepticism towards medical science, weak economic conditions, unemployment, and urbanization, particularly concerning unfavorable aspects such as smoking addiction as a means of social identification, inadequate education, and healthcare provisions, as well as deficient dissemination of information. Moreover, the media and insufficiency of infrastructure, such as sports facilities, contribute to the prevalence of smoking in rural areas. Ultimately, the regression analysis results exhibited that among all these factors, social and cultural influences, along with infrastructure considerations, have a more pronounced influence on the prevalence of smoking.

According to the findings, the following suggestions are provided:

1. Changing the villagers' attitudes towards tobacco consumption is paramount in reducing its prevalence. To address this, implementing promotional programs and utilizing local institutions such as village and rural Islamic councils can prove effective.

2. Rural areas are often characterized by easy access to tobacco products, with hookah prevalent in coffee houses and cigarettes readily available in most villages, especially for the youth. To combat this, it is advisable to impose restrictions, particularly on using hookah in public spaces.

3. Many villagers do not consider tobacco management and reduction their responsibility. It is vital to actively engage and persuade villagers that taking part in managing and reducing tobacco consumption is a duty they should fulfill.

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Conflict of Interest

The authors declared no conflicts of interest.

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