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Prevalence of Perceived Myths Regarding Tobacco Use and Nicotine Habits among The Rajkot Population, Gujarat: A Cross-Sectional Study

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Abstract

Introduction: India's tobacco issue is arguably more complex than in any other nation due to its significant burden of tobacco-related illnesses and fatalities[1]. Tobacco consumption adversely impacts all biological systems, including the oral cavity, and is a primary cause of oral cancer and periodontal diseases. Myths arise from ignorance, superstitions, and cultural imagination. Such myths can vary between societies and persist due to socio-cultural factors, false traditional beliefs, or a lack of scientific understanding. These beliefs frequently stem from the exaggerated retelling of past events and rituals, which are then passed down through generations. This examination to analyze the tobacco uses practices and prevalent myths about tobacco in the Rajkot population and assess their impact on oral health and overall well-being.

Materials and Methods: A questionnaire-based survey was conducted in the rural population of Rajkot district, Gujarat. Data was gathered through a structured questionnaire about tobacco chewing habits and myths surrounding tobacco use. The study population consisted of 217 individuals, comprising 121 males and 96 females. Descriptive and inferential statistics were applied, with a p-value of <0.05 considered statistically significant.

Results: A statistically significant difference was found in 18 – 25 years, 26 – 45 years and 46 – 72 years age group regarding various misconceptions.

Conclusion: The study underscores significant misconceptions across various age groups, particularly

concerning the perceived harmlessness of certain tobacco practices and the belief in its health benefits. Addressing these myths through targeted education and awareness campaigns is crucial for reducing tobacco-related health risks, including oral cancer and other serious conditions.

Keywords: Tobacco, Rural, Myths, Smoking

Introduction

India's tobacco issue is arguably more complex than in any other nation due to its significant burden of tobacco-related illnesses and fatalities[1]. Tobacco consumption adversely impacts all biological systems, including the oral cavity, and is a primary cause of oral cancer and periodontal diseases. It also increases the risk of dental implant failure. Additional dental concerns include staining and discoloration of teeth and dental restorations, as well as congenital defects such as oral clefts in infants born to smoking mothers [2]. The extensive use of both smoking and smokeless tobacco products, often referred to as "the brown plague," illustrates the modern epidemic of tobacco use [3]. Most tobacco users begin in their youth, particularly between the ages of 15 and 24. In India, smokeless tobacco forms like khaini, gutkha, betel quid with tobacco, and zarda are more common than smoking forms such as bidi, cigarettes, and hookah. Key factors influencing tobacco use among youth include individual characteristics, social environment, and contexts such as family, friends, and school. Peer pressure, parental smoking habits, family conflicts, psychological distress, and curiosity are significant risk factors [4].

Myths are widely held but false beliefs or misconceptions that lack grounding in reality. They often arise from ignorance, superstitions, and cultural imagination. Such myths can vary between societies and persist due to socio-cultural factors, false traditional beliefs, or a lack of scientific understanding. These beliefs frequently stem from the exaggerated retelling of past events and rituals, which are then passed down through generations. A study by Kanduluru A et al. found that many misconceptions were inherited from previous generations and were intended to alleviate anxiety related to dental health[5]. Despite advancements in modern dentistry, these misconceptions can still negatively impact dental care and lead to unnecessary disability. Given the increasing complexity of healthcare systems and rising expectations, it is crucial to address and dispel these myths to improve health education and care. Understanding and tackling these myths will aid in better resource utilization and reduce initial-stage disabilities[3]. In conclusion, understanding tobacco use practices and the myths surrounding tobacco among the Rajkot population is crucial for addressing this pressing public health issue. The prevalence of both smoking and smokeless tobacco products, coupled with deeply ingrained misconceptions, underscores the need for comprehensive educational efforts and targeted interventions. By shedding light on these practices and dispelling harmful myths, we can pave the way for more effective strategies to mitigate tobacco-related health risks and improve overall community well-being. This examination to analyze the tobacco use practices and prevalent myths about tobacco in the Rajkot population and assess their impact on oral health and overall well-being.

Material and Methods

Study setting: A single location was chosen because it is a manageable unit, and it is believed that superstitions and misconceptions often originate in rural communities. This study was conducted among the rural population of the Rajkot District, Gujarat Focusing on tobacco

chewing habits and myths surrounding tobacco use. Data collection occurred in the month of December 2023.

Source of data: Primary data was collected via a survey that featured a questionnaire addressing tobacco chewing habits and myths surrounding tobacco use.

Study population: The study population consisted of 217 individuals, comprising 121 males and 96 females.

Ethical clearance: Ethical clearance was obtained from the Institutional Ethical Committee, College of Dental Sciences and Research Centre, Ahmedabad.

Informed consent: The study's nature and purpose were explained to the participants, and their signed consent was obtained.

Inclusion criteria

- Individuals aged 18 years and above.
- Those present at the time of examination.

Exclusion criteria

- Non-cooperative and mentally challenged individuals.

Study design: A cross–sectional questionnaire survey.

Questionnaire

A structured questionnaire was administered, consisting of two parts:

- The first part containing questions related to tobacco use practices.
- The second part containing social myths related to tobacco use in the study population.

The questionnaire was available in three languages: Gujarati (local language), Hindi, and English.

Statistical Analysis: Data analysis was conducted using SPSS version 20 software (IBM Corp. IBM SPSS Statistics for Windows, Armonk, NY, USA: IBM Corp; 2011). Descriptive and inferential statistics were used to summarize the results, Chi – square test was used and p-value of <0.05 was considered statistically significant.

Results

The study included 217 participants aged between 18 and 72 years. The age distribution was as follows: 37% were aged 26–45 years, 34% were aged 46–72 years and 29% were aged 18–25 years. Males constituted 56% of the participants, while females accounted for 44%. (Table 1)

In this study, participants were asked about their preferred form of tobacco use. Among those aged 18-25 years, 36.5% reported smoking, either in the form of bidis or cigarettes. In contrast, 42.5% of participants aged 26-45 years indicated they primarily used chewing tobacco. Only 8.1% of participants overall used tobacco in the form of snuff, while 7.9% of the 18-25 age groups used manjan. Additionally, 26.9% of participants in the 18-25 age group reported using tobacco in forms, chewing and smoking. When asked about the duration of their addiction, 74.6% of participants aged 18-25 years had been using tobacco for 1-5 years. Similarly, 37.5% of participants aged 26-45 years reported using tobacco for 6-10 years. Among the 26-45 age group, 43.7% had been using the substance for 11-20 years, while 35.1% of participants aged 46-72 years had been using tobacco for 21-30 years. Notably, 17.5% of the 46-72 age group had been addicted for more than 31 years. Regarding reasons for initiating tobacco use, 47.6% of participants aged 18-25 years cited peer pressure as the primary factor, while 33.3% mentioned stress. Curiosity was a reason for 14.2% of participants in this age group. In comparison, 39.1% of participants aged 46-72 years attributed their tobacco use to seeing a parent (either father or mother) using it. Among participants aged 26-45 years, 5% indicated other reasons for starting tobacco use. When asked about attempts to quit, 63.5% of participants aged 18-25 years reported trying but failing to quit, whereas 52.5% of participants aged 26-45 years

stated that they had never attempted to quit the habit. (Table 2)

In this study, 53.5% Participants aged 26 - 45 years said that smoking does not harm your gums and teeth and there is significant difference (p=0.00) found. The majority of the participants in 46–72 years age group i.e., 75.6% said that spitting tobacco after chewing won't cause any harm and showed significant difference (p=0.00). When questioned whether smoking reduces acidity and prevents constipation, 68.9% participants in 46 - 72 years age group believed that smoking does reduces acidity and prevents constipation. A significant difference was found (p=0.00).Most of the participants, 43.2%, in the 46 - 72 years age group believed that the consumption of gul manjan can treat dental problems and a considerable difference was found (p=0.00).In the 26 - 45 years age group, 60% of participants said that smoking is commonly believed to have a calming effect and showed no significant difference (p=0.68). Majority of the participants 56.7% in 46 - 72 years age group, believed that it doesn't matter if you quit; damage is already being done and showed significant difference (p=0.00). Most participates 33.7% participants in 46 - 72 years age group, thought that chewing tobacco removes bad odour and showed no significant difference (p=0.06). Majority of the participants 56.7% in 46 – 72 years age group, agreed that chewing tobacco is safer than smoking tobacco and showed significant difference (p=0.01). Most of the participants, 60.8%, in the age group 46 – 72 years age group believed that chewing tobacco after meals helps in digestion and showed no significant difference(p=0.03). Surprisingly i.e. 46.2% of participants in 46 – 72 years age group, reported that only aged people can get oral cancer cause of chewing tobacco and showed no significant difference(p=0.01) (Table 3)

Discussion

This study offers valuable insights into the nicotine habits and the prevalence of related myths among the rural population of Rajkot district, Gujarat. To our knowledge, it is the first to examine tobacco-related myths by age group in rural areas of Gujarat, India. The widespread use of tobacco is a significant public health concern and a leading cause of preventable diseases globally. In India, both tobacco chewing and smoking are well-established risk factors for the development of precancerous lesions and oral cancer.

In this study, 53.7% of participants aged 26–45 years believed that smoking does not harm gums and teeth. This perception was shared by 52.7% of participants aged 46–72 years and 39.6% of those aged 18–25 years. No comparable study has been conducted with an analysis by age groups. Similarly, 75.6% of respondents aged 46–72 years believed that spitting out tobacco after chewing does not cause any harm. In contrast, this belief was held by 65% of participants aged 26–45 years and 34.9% of those aged 18–25 years. No research has examined this belief across different age groups. In terms of smoking's perceived health benefits, 68.9% of participants aged 46–72 years believed that smoking reduces acidity and prevents constipation, compared to - 58.7% of those aged 26–45 years and 50.7% of participants aged 18–25 years. There is a lack of similar studies analysing this perception across age groups. Furthermore, 43.2% of respondents aged 46–72 years believed that the consumption of Gul Majan can treat dental problems, while only 28.7% of participants aged 26–45 years and 17.4% of those aged 18–25 years shared this belief. No similar studies regarding this belief have been conducted across age groups. In this study, 60% of participants aged 26–45 years believed that smoking has a calming effect. This view was shared

by 50.7% of those aged 18–25 years and 50% of those aged 46–72 years. Comparable research has not been conducted on this belief across age groups. Moreover, 56.7% of participants aged 46–72 years believed that quitting tobacco would not matter because the damage has already been done, a belief shared by 27.2% of participants aged 26–45 years and 19.5% of those aged 18–25 years. No similar studies have explored this belief by age group. A belief that chewing tobacco removes bad breath was most prevalent in the 46–72 age group, with 33.7% of participants expressing this view. In comparison, 28.7% of participants aged 26–45 years and only 14.2% of those aged 18–25 years agreed with this statement. No studies have previously examined this belief according to age group. Additionally, 56.7% of respondents aged 46–72 years believed that chewing tobacco is safer than smoking, compared to 46.2% of those aged 26–45 years and 28.5% of participants aged 18–25 years. No prior studies have examined this belief across age groups. In this research, 60.8% of participants aged 46–72 years believed that chewing tobacco after meals aids digestion, compared to 46.2% of those aged 26–45 years and 41.2% of those aged 18–25 years. No comparable studies exist on this belief by age group. Finally, 46.2% of participants aged 26–45 years believed that only older individuals develop oral cancer from chewing tobacco, compared to 44.5% of those aged 46–72 years and 39.6% of those aged 18–25 years. No similar studies have been conducted to examine this belief by age group.

Conclusion

In conclusion, this cross-sectional study highlights the widespread nicotine use and the prevalence of deeply ingrained myths regarding tobacco among the Rajkot population, Gujarat. The study underscores significant misconceptions across various age groups, particularly concerning the perceived harmlessness of certain tobacco practices and the belief in its health benefits. Addressing these myths through targeted education and awareness campaigns is crucial for reducing tobacco-related health risks, including oral cancer and other serious conditions. Comprehensive interventions are essential to shift public perception and promote healthier behaviors, ultimately reducing the overall tobacco burden in this region.

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Legend Tables

Demographic Profile

Table 1:

Age Groups	
18-25	29%
26 – 45	37%
46 – 72	34%
Gender	
Male	56%
Female	44%

Table 2:

Questions		Age Groups			Total (217)	p-value
		18-25 years n = 63	26-45 years n = 80	46 - 72 years n = 74		
1. Types	Smoking(bidi/cigarette)	23(36.51%)	26(32.5%)	22(29.73%)	71(32.72%)	
	Chewing Tobacco	18(28.57%)	34(42.5%)	26(35.14%)	78(35.94%)	
	Snuffing	0(0%)	0(0%)	6(8.11%)	6(2.76%)	
	Using Tobacco Manjan	5(7.94%)	2(2.5%)	5(6.76%)	12(5.53%)	
	Smoking + Chewing	17(26.99%)	18(22.5%)	15(20.28%)	50(23.04%)	
	Total	63(100%)	80 (100%)	46 (100%)	217 (100%)	
2. Duration	1-5	47(74.6%)	7(8.75%)	4(5.4%)	58(26.73%)	
	6-10	16(25.4%)	30(37.5%)	11(14.87%)	57(26.27%)	

of substance addiction in years	11-20	0(0%)	35(43.75%)	20(27.03%)	55(25.34%)	
	21-30	0(0%)	8(10%)	26(35.13%)	34(15.67%)	
	>31	0(0%)	0(0%)	13(17.57%)	13(5.99%)	
	Total	63 (100%)	80 (100%)	74 (100%)	217 (100%)	
3. Reason for starting	Peer pressure	30(47.62%)	36(45%)%)	32(43.24%)	98(45.16%)	
	Stress	21(33.33%)	6(7.5%%)	5(6.76%)	32(14.75%)	
	Curiosity	9(14.29%)	6(7.5%)	8(10.81%)	23(10.6%)	
	Seen father mother doing	3(4.77%)	28(35%)	29(39.19%)	60(27.65%)	
	Others	0(0%)	4(5%)	0(0%)	4(1.84%)	
	Total	63 (100%)	80 (100%)	74 (100%)	217 (100%)	
4. Ever tried quitting and failed	Yes tried and failed	40(63.5%)	38(47.5%)	46(62.16%)	124(57.14%)	
	No never tried	23(36.5%)	42(52.5%)	28(37.84%)	93(42.86%)	
	Total	63 (100%)	80 (100%)	74 (100%)	217 (100%)	

Table 3:

Questions		Age Groups			Total (217)	P Value	Chi Value
		18-25 years n = 63	26-45 years n = 80	46 - 72 years n = 74			
1.Smoking does not harm your gums and teeth	Yes	25(39.68%)	43(53.75%)	39(52.70%)	107(49.31%)	0.00*	16.6
	No	22(34.92%)	28(35%)	11(14.87%)	61(28.11%)		
	Don't know	16(25.40%)	9(11.25%)	24(32.43%)	49(22.58%)		
	TOTAL	63(100%)	80 (100%)	46 (100%)	217 (100%)		
2.Spitting tobacco after chewing won't cause any harm	Yes	22(34.92%)	52(65%)	56(75.68%)	130(59.91%)	0.00*	29.7
	No	31(49.20%)	21(26.25%)	8(10.81%)	60(27.65%)		
	Don't know	10(15.87%)	7(8.75%)	10(13.51%)	27(12.44%)		
	TOTAL	63 (100%)	80 (100%)	74 (100%)	217 (100%)		
3. Smoking reduces acidity and prevents constipation	Yes	31(50.79%)	47(58.75%)	51(68.92%)	130(59.91%)	0.00*	17.9
	No	26(41.26%)	22(27.5%)	8(10.81%)	56(25.81%)		
	Don't know	5(7.93%)	11(13.75%)	15(20.27%)	31(14.29%)		
	TOTAL	63 (100%)	80 (100%)	74 (100%)	217 (100%)		
4.Consumption of gul manjan can treat dental problem	Yes	11(17.46%)	23(28.75%)	32(43.24%)	66(30.42%)	0.00*	34.5
	No	42(66.67%)	23(28.75%)	18(24.32%)	83(38.25%)		
	Don't know	10(15.87%)	34(42.5%)	24(32.43%)	68(31.34%)		
	TOTAL	63 (100%)	80 (100%)	74 (100%)	217 (100%)		

5. Smoking is commonly believed to have a calming effect?	Yes	32(50.79%)	48(60%)	37(50%)	117(53.92%)	0.68	2.28
	No	17(26.98%)	20(25%)	22(29.73%)	59(27.19%)		
	Don't know	14(22.22%)	12(15%)	15(20.27%)	41(18.90%)		
	TOTAL	63 (100%)	80 (100%)	74 (100%)	217 (100%)		
6. It doesn't matter if you quit damage is already being done	Yes	12(19.05%)	22(27.25%)	42(56.75%)	76 (35.02%)	0.00*	51.2
	No	37(58.73%)	16(20%)	13(17.57%)	66(30.41%)		
	Don't know	14(22.22%)	42(52.5%)	19(25.68%)	75(34.56%)		
	TOTAL	63 (100%)	80 (100%)	74 (100%)	217 (100%)		
7. Chewing tobacco removes bad odour?	Yes	9(14.29%)	23(28.75%)	25(33.78%)	57(26.27%)	0.06	8.90
	No	19(30.16%)	15(18.75%)	12(16.22%)	46(21.20%)		
	Don't know	35(55.55%)	42(52.5%)	37(50%)	114(52.53%)		
	TOTAL	63 (100%)	80 (100%)	74 (100%)	217 (100%)		
8. Chewing tobacco is safer than smoking tobacco?	Yes	18(28.57%)	37(46.25%)	42(56.76%)	97(44.70%)	0.01*	13.7
	No	33(52.38%)	25(31.25)%)	20(27.03%)	78(35.95%)		
	Don't know	12(19.05%)	18(22.5%)	12(16.22%)	42(19.35%)		
	TOTAL	63 (100%)	80 (100%)	74 (100%)	217 (100%)		
9. Chewing tobacco after meals helps in digestion?	Yes	26(41.27%)	37(46.25%)	45(60.81%)	108(49.77%)	0.03*	10.5
	No	25(39.68%)	32(40%)	14(18.92%)	71(32.72%)		
	Don't know	12(19.05%)	11(13.75%)	15(20.27%)	38(17.51%)		
	TOTAL	63 (100%)	80 (100%)	74 (100%)	217 (100%)		
10. Only aged people can get oral cancer cause of chewing tobacco?	Yes	25(39.68%)	37(46.25%)	33(44.59%)	95(43.78%)	0.01*	12.7
	No	32(50.79%)	24(30%)	20(27.03%)	76(35.02%)		
	Don't know	6(9.52%)	19(23.75%)	21(28.38%)	46(21.20%)		
	TOTAL	63 (100%)	80 (100%)	74 (100%)	217 (100%)		