

## Prevalence and Attitude of Cigarette Smoking Among Indian Expatriates Living in Jeddah, Kingdom of Saudi Arabia

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### Abstract:

**Background:** The objective was to determine the prevalence and attitudes of smoking among expatriate Indian workers living in Jeddah, Saudi Arabia.

**Methods:** A cross-sectional analytical study was done. All the data were collected using a questionnaire-based interview.

**Results:** A total of 421 people were interviewed. Almost half (42%) of the participants were between 31 and 40 years old and 7% were over 51 years. The majority of participants (63%) reported to be non-smokers. The maximum number of smokers was between 41 and 50 years old (42%) and most of them were regular smokers. Almost a third of the subjects (30%) had a higher secondary level of education, and 7% were illiterate. There was a significant association between the prevalence of smoking and the level of education ( $P < 0.001$ ). Among smokers, half of them smoked more than 21 cigarettes/day. More than half, 238 (57%) of participants agreed that the tobacco was harmful to their health, and 50% agreed that tobacco sales should be banned. Among all, 92% were concerned about their health and 98% accepted that the tobacco causes diseases. The majority of smokers cited stress, loneliness financial responsibilities and a lack of socializing as reasons for their smoking habit.

**Conclusion:** Although the prevalence was relatively high, the majority was aware of the harmful effects of smoking and was keen to have the sale of tobacco banned. Due to their possible loneliness and stress, many felt that smoking helped ease their stress and tension.

**Key Words:** Attitude, Indian expatriate, smoking, socializing

### Introduction

Tobacco smoking kills both active and passive smokers through coronary heart disease, chronic obstructive pulmonary disease, lung cancer, and oral cancer.<sup>1</sup> It kills about five to six million people annually worldwide over the age of 30<sup>2,3</sup> and it is expected to rise to about 10 million by 2030. More than 1.1

billion people currently smoke worldwide and among them 80% live in underdeveloped and developing countries. According to the United Nations over 600 million current smokers reside in Bangladesh, Brazil, China, Egypt, India, Mexico, Philippines, Poland, Russia, Thailand, Turkey, Ukraine, Uruguay, and Vietnam.<sup>2,4,5</sup> Tobacco use is growing fastest in the low-income countries due to the steady population growth coupled with the tobacco industry targeting and ensuring that millions of people become fatally addicted each year.<sup>6</sup> Tobacco use in various forms is influenced by a variety of factors including individual attitudes and beliefs, social norms, acceptability, availability and advertising campaigns.<sup>7,8</sup>

Around 160 million dollars is used for buying tobacco every year in Saudi Arabia.<sup>9</sup> According to Times of India (2013), the number of Indian expatriates living in Saudi Arabia is about 2,450,000.<sup>10</sup> Jeddah is one of the commercial cities of Saudi Arabia, where the largest number of Indian expatriates reside. Residents of the Al Sarfia District of Jeddah have the greatest concentration of expatriate Indians. Very few studies have been done on expatriate workers in Saudi Arabia. Their health concerns, occupational skills and levels of stress vary according to their knowledge and literacy. This study is the first to determine the prevalence and attitudes of smoking among expatriate Indian workers living in Jeddah, Saudi Arabia.

### Methods

This was a cross-sectional analytical study on Indian expatriate workers residing in Jeddah, Saudi Arabia. It was performed during 2014 in a district Sharfia in Jeddah where many Indian expatriates reside.

Due to financial and time constraints, 421 Indian males were interviewed. It is common knowledge among Indian male expatriates in Jeddah, to meet and socialize on a weekly basis at a certain location. It was decided to carry out the interviews during the weekly meeting in order to gain the maximum sample size. It was done on a single day as repeat visits would lead to duplication of the data as the same people may be interviewed repeatedly. An interview type format was used with a standardized questionnaire and data were collected from all those who were willing to participate. All data were anonymous and confidential.

Ethical approval was obtained from the Taibah University, College of Dentistry; Research Ethics Committee.

Data were analyzed using SPSS software package. The chi-square test was used to calculate any significant associations between the variables.

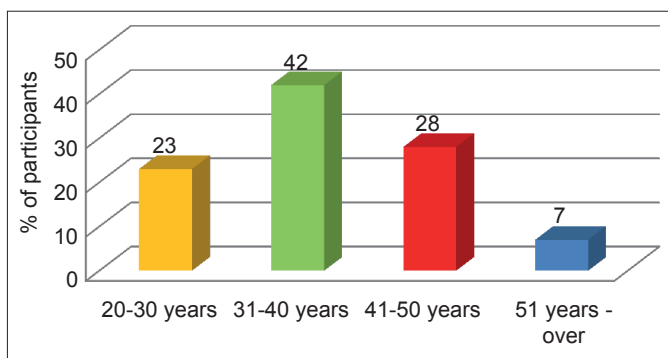
## Results

A total of 421 people were interviewed. Almost half (42%) of the participants were between 31 and 40 years old and 7% were over than 51 years as shown in Figure 1.

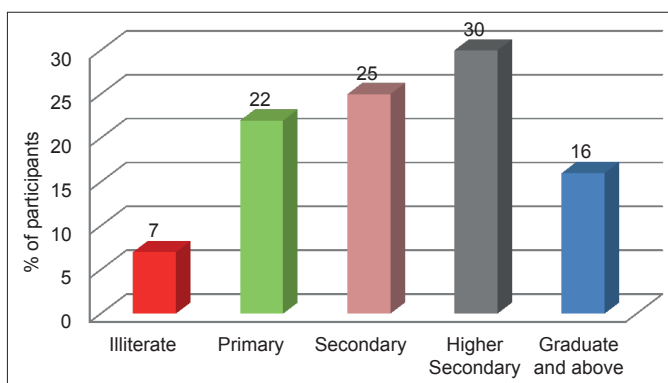
The majority of participants (63%) reported to be non-smokers. There were no significant differences between the age categories and prevalence of smoking ( $P = 0.432$ ) as shown in Table 1. The maximum number of smokers was between 41 and 50 years old (42%) and most of them were regular smokers.

Almost a third of the subjects (30%) had a higher secondary level of education, and 7% were illiterate (Figure 2).

There was a significant association between the prevalence of smoking and the level of education ( $P < 0.001$ ). None of the



**Figure 1:** Distribution of participants according to age groups ( $n = 421$ ).



**Figure 2:** Distribution of participants according to level of education ( $n = 421$ ).

smokers were from the illiterate group while 46% of smokers had a primary school education (Table 2).

Among smokers, half of them smoked more than 21 cigarettes/day ( $P = 0.032$ ) as shown in Table 3. Their level of education did not influence their consumption of daily cigarette smoking.

More than half, 238 (57%) of participants agreed that the tobacco was harmful to their health and 50% agreed that tobacco sales should be band. Among all, 92% were concerned about their health and 98% accepted that the tobacco causes diseases (Table 4). The majority of smokers cited stress, loneliness financial responsibilities and a lack of socializing as reasons for their smoking habit.

## Discussion

Most of the respondents were skilled laborers and therefore the majority was between 31 and 40 years old. Less than 10% were older than 51 years as most of the expatriate's return home when they reached 50 years due to their contract obligations. In addition, many return home to retire after the age of 50.

The prevalence of smoking (37%) was within the range reported in both India (15-50%)<sup>11</sup> and Saudi Arabia (12-57%).<sup>7</sup> This may be due to the fact that the sample consists of expatriate workers, many of whom have no family with them and are often depressed and lonely. In addition, due to language problems, there is little room for meeting others and socializing with them. These factors may increase the stress and isolation felt and could result in their increase in smoking.

Age	Tobacco smoking habit (N (%))		Total N (%)	Significant level
	Non-smokers	Smokers		
20-30 years	61 (64)	34 (36)	95 (100)	Not significant $P=0.432$
31-40 years	113 (64)	64 (36)	177 (100)	
41-50 years	69 (58)	51 (42)	120 (100)	
51 years and above	21 (72)	8 (28)	29 (100)	
Total	264 (63)	157 (37)	421 (100)	

Level of education	Tobacco smoking habit (n (%))		Significant level
	Non-smokers	Smokers	
Illiterate	27 (10)	0 (0)	Highly significant $P<001$
Primary school	50 (19)	42 (27)	
Secondary school	65 (25)	41 (26)	
Higher Secondary	75 (28)	53 (34)	
Graduate and above	47 (18)	21 (13)	
Total	264 (100)	157 (100)	

Table 3: Distribution of smokers/day in relation to level of education (n=157).

Level of education	Consumption/day (n (%))			Total n (%)	Significant level
	Less than 10/day	11-20/day	21 and more		
Illiterate	0 (0)	0 (0)	0 (0)	0 (0)	Significant P=0.032
Primary	13 (31)	5 (12)	24 (57)	42 (100)	
Secondary	13 (32)	8 (19)	20 (49)	41 (100)	
Higher secondary	22 (42)	6 (11)	25 (47)	53 (100)	
Graduate and above	3 (14)	9 (43)	9 (43)	21 (100)	
Total	51 (32)	28 (18)	78 (50)	157 (100)	

Table 4: Attitude toward smoking.

Questions	Agree n (%)	Disagree n (%)	Don't know n (%)	Total n (%)
Tobacco use is harmful for health	238 (57)	46 (11)	137 (32)	421 (100)
Tobacco sale should be banned	212 (50)	107 (26)	102 (24)	421 (100)
	<b>Concern</b>	<b>Not concern</b>	<b>Can't say</b>	
Are you concern about your health	389 (92)	0 (0)	32 (8)	421 (100)
	<b>Does not</b>	<b>Cause diseases</b>		
Tobacco causes disease	8 (2)	413 (98)		421 (100)

The majority of smokers were between 41 and 50 years old. This could be as a result of increased awareness and campaigns that have influenced the younger expatriates to stop smoking or to not start smoking when they were younger.

The majority of respondents had either a secondary or higher secondary level of education. Many of the Indian workers are employed as skilled laborers working as a salesman, computer technicians, electricians, plumbers or masons and <10% were illiterate.

None of the smokers were from the illiterate group, and this could be due to their low financial earnings and, as a result, could not afford cigarettes. It could also be that many of them use chewing tobacco which is cheaper and easier accessible compared to cigarettes. Those with higher education levels had a lower prevalence of smoking compared to the middle-level expatriates. This could be due to them having their families with them and due to a better level of knowledge. This may be preventing them from smoking compared to the middle-level expatriates.

Among smokers, half of them smoked more than 21 cigarettes/day and this could be due to their stress levels and their loneliness. It could also be due to their peers who are all smoking and hence the environment is conducive for them to smoke more.

Almost 60% of participants agreed that the tobacco was harmful to their health and half of all of them stated that tobacco sales should be band. This showed that many of

them were aware of the harmful effects of tobacco but were addicted and felt they could not stop smoking. If the sale was banned, it might make their decision to quit easier. This was confirmed as 92% were concerned about their general health status and 98% agreed that the tobacco is responsible for causing many diseases.

### Conclusion

The prevalence of smoking in this group was similar to that of males in India and Saudi Arabia. Most of the smokers were between 31 and 40-year-old and had either a secondary or higher secondary level of education. Although the prevalence was relatively high, the majority were aware of the harmful effects of smoking and were keen to have the sale of tobacco banned. Due to their possible loneliness and stress as expatriate workers, many felt that smoking helped ease their stress and tension.

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