

Smoking Habits in Hajj: A Cross-sectional Study on 464 Pilgrims in Makkah, 2017_1438H

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Abstract

Aim: To identify the effects of Hajj on smoking and evaluate various parameters that affect smoking habits.

Method: The prevalence of smoking was estimated among pilgrims by quantitative, descriptive, observational, cross-sectional analysis during Hajj days in the Mena area, Makkah, Kingdom of Saudi Arabia. Questionnaire obtained from a published study was revised and used for this study after complete ethical considerations and approval from the required departments.

Result: The results indicated that during Hajj, the number of cigarettes smoked were reduced or remained same as during non-Hajj days. There were more smokers among the married and highly educated class of people. It was also found that the majority of smokers were from Indonesia, whereas majority of ex-smokers were from Egypt.

Conclusion: It can be concluded that a religious visit to Makkah during Hajj can help in the reduction and management of smoking.

Keywords: Hajj, smoking, smokers, ex-smokers, nonsmokers, questionnaire, Makkah

3. Introduction

Tobacco smoking is associated with many severe and potentially fatal health issues, and discontinuing this habit can help in the prevention and management of associated diseases [1,2]. As per the World Health Organization (WHO) statistics, there are about 1.1 billion tobacco users worldwide and it results in 7 million deaths occur due to tobacco use every year, making tobacco smoking a leading cause of avoidable deaths [3]. Of these 7 million deaths, more than 6 million deaths are from

direct tobacco use, whereas about 1 million deaths are due to nonsmokers being exposed to second-hand smoke (passive smoking), resulting in diseases such as cancer, respiratory issues, and heart diseases [1,3]. This figure is estimated to rise about 10 million by the year 2030 if it is not controlled effectively [4].

Although it is well known that quitting smoking can help prevent many health risks and even death, it is difficult to give-up smoking. The addiction to smoking is primarily caused by the presence of nicotine in cigarettes, which makes it challenging to quit smoking. Another chemical in tobacco smoke, acetaldehyde, also has addictive effects on the body [5]. The process of quitting smoking may take several days to months, and withdrawal symptoms may lead to a relapse of this habit or make the struggle more difficult [6]. Many research studies have indicated that smoking can be as addictive as cocaine, heroin, and alcohol [2].

A study conducted by Rafful [7] reported that many smokers wish to quit smoking and live a healthy life, but their attempts fail, creating the need for a more effective method to help them quit smoking. The success of the effort mainly relies on factors like motivation, the number of previous attempts at quitting, and self-regulation [7].

Hajj is a religious journey to Makkah in the Kingdom of Saudi Arabia. It is a mandatory pilgrimage to be

performed at least once in the lifetime of every healthy Muslim who can afford it. Hajj, which takes place from the 8th to 12th day of the last month of the Islamic calendar, i.e., Dhul Hijah, is undertaken by more than 2 million Muslims from nearly 183 countries across the globe [8].

The spirituality of Hajj can act as a strong motive for smokers to quit. Thus, this research aimed to study the smoking habits of individuals during this annual Islamic pilgrimage. We investigated whether Hajj and religion helped smokers to successfully quit smoking and prevented a relapse if they commenced their quitting attempt during the holy visit to Makkah. Although Hajj shares similarities with other mass gatherings, it is unique. A massive population from a wide range of nationalities and a broad spectrum of culture and living habits participate in this holy pilgrimage. This helped us examine and conduct the study on a wide range of the population. An investigation on the use of tobacco and quit attempts among people from different cultural backgrounds during the Hajj can make a valuable contribution to the existing literature.

This study was performed to identify the possibility of discontinuing smoking habits and the effectiveness of such an attempt during the holy visit to Makkah for Hajj. The main objectives were to assess the predominance of the smokers, nonsmokers with a history of smoking (ex-smokers), and nonsmokers with no history of smoking among the pilgrims. In addition, the study also focused on analyzing and comparing the number of cigarettes smoked before and during Hajj days along with determination of the methods used by the smokers and ex-smokers to discontinue smoking at these pilgrims.

Assessment and evaluation of few factors like level of nicotine dependence, reasons to discontinue, reasons to begin smoking again, stress, tobacco marketing, signs stating "No Smoking" in Hajj days, and percentage of smokers (family, friends, or workers in Hajj) around the study population that affect the attempts to quit smoking among the population under study were also assessed and evaluated.

2. Materials and Methods

The estimation of smoking prevalence among pilgrims was performed by quantitative descriptive observational cross-sectional analysis. The study was conducted during Hajj days in the Mena area, Makkah, Kingdom of Saudi Arabia; it began on 20/08/2017 and ended on 06/09/2018 (6/12/1438H to 14/12/1438H). Pilgrims, both male and female, of the six top nationalities who were staying in the Mena area during Hajj were included in the study. The top six nationalities included Indonesia, India, Pakistan, Saudi Arabia, Egypt, and Iran. Organizers, hajj workers, bus drivers, healthcare workers, employees from any ministry, illiterates, and non-pilgrims were excluded. Due to the lack of smoking studies during Hajj, we assumed the expected prevalence of smoking to be 50% (which

is the most conservative estimation for the "highest" number of sample size). Assuming 95% desired level of confidence, 80% power, and a 5% acceptable margin of error, the requisite sample size was approximately 384.

The pilgrims who were current smokers, ex-smokers, and individuals who had never smoked in their life (nonsmokers) were included in the study. Nonprobability sampling technique was used, and the study population was divided into six groups based on their nationality. The parameter of nationality was chosen knowing that the pilgrims from these six countries make up more than 50% of the total pilgrims during Hajj every year. Gender-based sub-groups were created in each group.

A predesigned self-administered questionnaire obtained by modifying the questions used in previous studies about smoking was used for the collection of data [9]. The questions were revised based on the Hajj situation. The questionnaire form contained the basic information section called as demographic data, and three other sections, viz. section A for smokers, section B for ex-smokers, and section C (smokers and ex-smokers). The questionnaire was distributed in a paper format to pilgrims in the campus areas for men and women. It was collected after completion.

Reliability and validity of data was confirmed by performing a pilot study and using a validated questionnaire from a published study. The pilot study involved a study population of 100 individuals from a Turkish camp and was conducted by translating the questionnaire into the Turkish language.

An authorized translation center translated the questionnaire in English into six languages, viz. Hindi, Urdu, Indonesian, Turkish, Persian, and Arabic. This was back-translated into English by the external bilingual reviewer for each language, and comparison was made to confirm the validity of the translation. The Epi Info software (Centers for Disease Control and Prevention, Atlanta, Georgia, USA) was used to enter data. Entry-related errors were checked in the data. Statistical Package for Social Science (SPSS) was used for the analysis of data. The categorical variables were presented as percentages and frequencies while continuous variables were presented as means and standard deviations. Chi-square was used to obtain the p-value between categorical data, dependent and independent, to estimate the association where p-value ≤ 0.05 was considered as significant. The Wilcoxon signed-rank test analytical method was used to correlate and compare the number of cigarettes smoked before going and after coming from Hajj.

Before beginning the study and collecting data from the pilgrims, approval was obtained from the Administration Field Epidemiology Program of Research & Ethics Committee. A documented written permission was obtained from the Ministry of Health Committee in

Makkah to conduct the study in the Mena area. Verbal consent of every individual was taken after a detailed explanation of the objectives and importance of the study. The approval stressed the confidentiality of collected data and prevention of its misuse. The received data was kept confidential and used only for the purposes described in the study objectives.

3. Results

A total of 500 questionnaires comprising multiple smoking habits-related questions were distributed during the study, out of which 36 were excluded due to incompleteness or no response. Thus, 464 (92.8%) completed questionnaires were obtained for the final data analysis.

The final study population included 464 individuals, mostly middle-aged, with 62% males and 38% females. About 90.3% of the study population was married, and 48.7% of individuals were well-qualified postgraduates. Majority of the individuals was from Indonesia, which accounted for about 22.2% of the study population, and the minimum were from Iran, accounting for only 9.1% of the sample.

The result of our study indicated that most of the smokers and ex-smokers were married and highly educated as shown in Table 1.

The number of pilgrims from different countries and the prevalence of smoking based on nationality and gender also varied, which is detailed in Table 2 and Figure 1. It was found that the majority of smokers were from Indonesia, whereas the majority of ex-smokers were from Egypt. Most of the smokers and ex-smokers were men.

While performing this survey, the difference in the number of cigarettes smoked per day on a regular day was compared to the number of cigarettes smoked while on Hajj, and the result reported that none of the individuals smoked more cigarettes than usual during Hajj. About 67% (57 out of 83) of the individuals smoked fewer cigarettes during Hajj as compared to non-Hajj days. Few participants showed no change in the number of cigarettes smoked.

The result also helped identifying the method used for quitting smoking and its effectiveness. Abrupt discontinuation and medical consultation were the two methods used. Among 118 pilgrims, about 75.6% of the smokers and 71% of ex-smokers were able to discontinue smoking by abruptly quitting this habit, whereas 9.6% each of smokers and ex-smokers consulted the doctor to stop smoking.

We also studied the level of dependence on nicotine among 83 individuals. It was found that 47% of smokers had low dependence, 37.3% had moderate dependence, and rest 15.7% had a high dependence on nicotine. About 66.3% of these 83 individuals were not willing to quit this habit, whereas the rest of the smokers were ready to quit the habit.

The reasons for which the smokers or the ex-smokers wanted to quit smoking were health, family, and religious concerns. A total of 83 smokers and 31 ex-smokers were included in this study, and the results are presented in Figure 2.

The reasons given by smokers for restarting smoking after quitting were cravings (29.8%), coping with stress (28.8%), and social situations (29.8%).

Hajj was not a stressful journey for 67.5% (77 out of 114) of the individuals, whereas other replies varied from mildly stressful to very stressful. About 99.1% of the pilgrims did not notice any advertisement promoting smoking during Hajj, and 72.8% noticed the signs indicating the prohibition of smoking. The percentage of nonsmokers around smokers and ex-smokers was 66.7%; this shows the differences between the two groups (smokers 60%, ex-smokers 83.9%; p=0.016).

Table 1: Percentage of married and educated smokers and ex-smokers.

Category	Smokers (%)	Ex-smokers (%)
Married	16.2	6.3
Educated	13.6	5.9

Table 2: The segregation of pilgrims based on their nationality.

Nationality	Number of pilgrims
Saudi Arabia	94
India	84
Indonesia	103
Iran	42
Pakistan	89
Egypt	52

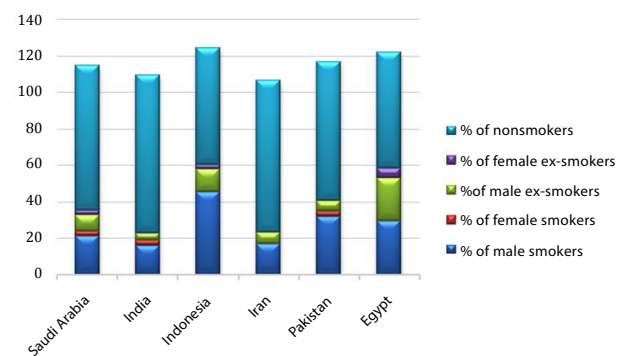


Figure 1: The percentage of male and female smokers, ex-smokers, and non-smokers from different nationalities.

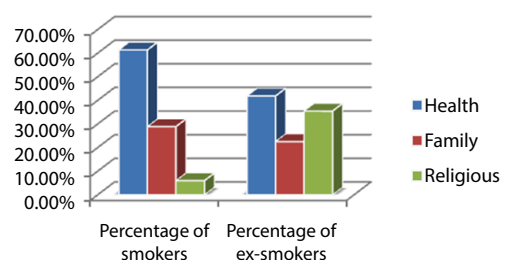


Figure 2: Reasons for discontinuation of smoking.

4. Discussion

Many studies have attempted to identify the correlation between smoking and religion. Almost all these studies support that stronger religious beliefs have a positive impact on health as they prevent smoking and other related habits that can affect health and lead to diseases [10,11].

A study conducted by Hamid [10] aimed at observing the effects of Islam on the prevention of smoking. Their study population included 1,000 individuals from Abbottabad who were asked to solve a questionnaire designed in a manner that could help correlate the connection between their religious beliefs and smoking habits. The result indicated that Islam had a positive effect on the prevention of smoking [10].

Cross-sectional survey data collected from a population of 480 Muslim Arab-American adolescent students of class seventh to twelfth were used to examine the effects of religious and cultural beliefs on smoking. It was found that males were twice as much susceptible to smoking than females. The gender-specific cultural norms made the males more susceptible to smoking, whereas the religious beliefs protected only females from smoking [11].

Another published cross-sectional study on 400 individuals from Tehran University suggested that there is a significant link between smoking patterns and age, gender, economic status, educational status, place of living, and the existence of smoking habits in relatives [12].

A study that details the effect of faith and religion on smoking habits was published in the year 2011. The study reported that religiosity has a positive effect on human behavior and helps in controlling habit-forming behaviors such as alcoholism and smoking. Data related to individuals' belief in God and smoking habits were obtained through a questionnaire. It was found that individuals with high nicotine dependence were less likely to be involved in various religious practices [13].

Although awareness about the effects of smoking on health among educated individuals is very high and is also increasing among the general population, it is unable to control the number of smokers or reduce smoking. Many of the smokers are willing to quit smoking for their health, family, and religion. Religious beliefs can be a motivational factor in quitting smoking, but determining the right method of quitting is a challenging task. Appropriate medical consultation can help an individual who finds it difficult to discontinue abruptly or experiences withdrawal symptoms.

5. Conclusion

Some pilgrims who smoked believed that smoking is an integral part of their life, but about 33.7% of those were ready to discontinue. In most of the cases, the number of

cigarettes smoked during the pilgrimage was less than those smoked on regular days, indicating the positive impact of this holy journey on smoking habits. Some of the participants smoked the same number of cigarettes during the holy visit, and there was no reduction in smoking. However, none of the participants smoked more during Hajj. This showed that there is a definitive impact of the religious visit to Makkah on smoking.

The study indicated that maximum smokers were pilgrims from Indonesia followed by pilgrims from Pakistan and India, and the least number of smokers were from Iran. The majority of the smokers and ex-smokers were men. Most of them could discontinue smoking abruptly, whereas a few of them needed medical consultation to get rid of this habit, reiterating the importance of religious influence on addictive habits like smoking.

It can thus be concluded that religion and faith plays a significant role in the cessation of bad habits like smoking, and it will be more effective if one tries to drop such habits during the holy visit to Makkah. The study also concluded that various factors like the place of stay, social groups, and gender can lead to smoking. Irrespective of the causative factor, a religious visit to Makkah can help in the reduction and management of smoking. It is self-motivation that helps in the cessation of smoking with the religious visit having a synergistic effect.

6. Acknowledgment

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7. Conflicts of Interest

The authors declare that there are no conflicts of interest.

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