

# Study of the Health Condition of the Hotels and Lodging Houses of the City of Kashan in Winter 2015 and Spring 2016

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## Abstract

**Aims:** The tourism industry is one of the world's top three industries with an annual growth of 4%. This research was conducted with the aim of determining the environmental health indicators of hotels and lodging houses in the city of Kashan in the winter of 2015 and the spring of 2016. **Materials and Methods:** This research is a descriptive study carried out on all hotels and guesthouses in Kashan city. The information was collected through direct referral and health visit with the environmental health expert of the health centers of Kashan. Information was gathered by in the form of completion of Article 13 of the Code of Conduct and then analyzed using descriptive statistics. **Results:** Having a medical examination card by all the staff, improvement the walls of the building at 14.3%, and improvement the ceiling in 28.6% of the hotels, the use of a depreciated bed in a hotel and a guesthouse, the lack of an appropriate ventilation in 50% of the guesthouses, the lack of attention to the provision of health cards by drivers of food-carrying vehicles was observed in more than 50% of the places. **Conclusion:** The health status of the hotels and inns (lodging house) of the city of Kashan is in a relatively favorable situation. Considering the many tourism attractions in Kashan and the presence of tourists, it is important to pay attention to the safety and improvement of buildings of residential centers to maintain the health and comfort of tourists and also to prevent earthquake hazards.

**Keywords:** Environment and public health, environmental health, hotel, inn, Kashan

## INTRODUCTION

Inappropriate habitat can be one of the environmental factors threatening human health.<sup>[1]</sup> The tourism industry is one of the three top industries in the world, and according to the World Tourism Council, travel has created jobs for three hundred million people directly and indirectly, with predicting annual growth of 4%.<sup>[2]</sup> The World Health Organization has developed a comprehensive definition of environmental health, which is to control factors in the living environment that have or will have an effect on the welfare and physical, psychological, and social health of humans.<sup>[1]</sup>

The issue of health and its observance is increasingly being considered by international tourists. The emergence of diseases such as cholera and malaria in developing countries and the threat posed globally by the AIDS virus has led tourists to pay more attention to the issue of food, drinking water and medical supplies and countries and operators who are welcoming travelers are asked to observe more health measures.<sup>[3]</sup> Basically, doing any project, regardless of the target groups and

the type and amount of their needs, will lead to a little success. The quality and welfare of the hotels are the national pride of each country, and the hotels and residences of each province or city are places to host the tourists. Travelers' satisfaction with the location of hotels and residences has a direct impact on tourists' look. Hotels are used daily for different people. They should be comfortable, healthy, good weather, without health pests such as mosquitoes, cockroaches, bugs, flies, insects, arthropods, and rodents, generally usable and have all the basic facilities for those who use them.<sup>[4]</sup> Failure to adhere health regulations in these places can cause many problems, as these centers are a very good center for transmitting contagious diseases and pathogens are transmitted by travelers

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throughout the country.<sup>[5-9]</sup> Disregard for health and increasing the population of cockroaches will increase gastrointestinal diseases.<sup>[10-15]</sup> Any negligence may lead to an epidemic among tourists, which not only the tourists suffer from the results, but also tourists' return to the home or the city, may also lead to the transmission to the community.<sup>[16-18]</sup> Tropical areas cause the growth of a variety of toxic and dangerous cold blood beasts, including snakes and scorpions, which enter into any hotel or inn's outdoor especially outside of the city and beautiful places.<sup>[18-21]</sup> The progressive growth of the tourism industry, on the one hand, and the importance of health, on the other hand, require the urgent planning and international organization with cooperation of various sectors of tourism-related development aimed at ensuring the health of the tourist, whether in a fixed location or in tourism places.<sup>[22]</sup> Kirk considers the management and supervision of environmental health indicators as factors influencing the efficiency of the hotel industry.<sup>[23]</sup> One of the important health indicators in hotels is the lack of smoking. Mulcahy *et al.* at restaurants of several Scottish hotels showed that the source of smoking has significantly reduced nicotine levels in the saliva of nonsmoker workers.<sup>[3]</sup> The results of the survey of health indicators in places of food supply and distribution in Bam city by Jahed *et al.* in 2004 showed that the status of use of a valid health card, the status of the trash bin and its disposal, the status of the bathroom and bathroom, the status of the fridges, and the apparent status of staff need to improve.<sup>[24]</sup> Farzin studies on inns and hotels in Qom showed that 9.7% of hotels and guest houses in Qom are in unfavorable conditions, 54.8% are in improvement criteria, and 35.5% in health areas, due to the geographical location of these places in worn-out tissue of the city and building problems. Proper profitability and economic turnover of hotels are realized only in units that meet the full health standards and nonobservance of the health regulations or disregarding it will endanger investment in this sector.<sup>[25]</sup> Therefore, the aim of this study was to determine the health indices of hotels and guest houses and traditional residences in Kashan to find ways to improve these indices and thus step toward improvement of tourism industry in the country.

## MATERIALS AND METHODS

This research is a descriptive study conducted in the winter of 2015 and spring of 2016 by census on all active hotels and guest houses in Kashan, which includes seven hotels and eight Inns (lodging house). The information was collected through direct referral and health visit along with the environmental health expert of the health centers of Kashan. The information was collected by completing the form of the Health Regulations of hotels, motels, guest houses and boarding houses (Article 13: Article 13 means: 13<sup>th</sup> regulations matter Eating, Drinking, Makeup, and Health) and then analyzed using descriptive statistics and Excel software. In this analysis, 41 clauses from 107 clauses of the 13<sup>th</sup> regulations matter are examined based on the highest importance in relation to other provisions. This material is divided into five categories.

1. Public health includes examining the existence of a medical examination card, obtaining health certification, general cleaning of the workplace and personal health, the provision of suitable work clothes for workers, workers "clothing place, workers" restroom, and the ban on smoking at work
2. Improvement condition includes roof, doors and windows, walls, floor of the building, existence of healthy water and the existence of a sewage system, the proportion of the number of toilets, water closet, and bathrooms with the number of workers
3. Tools include sink (dishwashing), shelf, desktop, warehouse, refrigerator, dustbin, bed, hot and cold water showers, and clean and healthy containers
4. Safety includes first aids kit, ventilation at the top of the cooking appliance, proper ventilation in the food store, fire forecast, lighting intensity, the presence of a guard on the stairs, and the lack of maintenance of unnecessary and additional food and equipment
5. Transport (from an outside restaurant to hotel) includes the existence of a suitable vehicle for the transport of perishable food, sweets and dry goods transportation vehicle, a driver's health card, and a ban on the transport of stuffs other than foodstuffs by food transportation vehicles (exclusive vehicles that only must be transport food, specially perishable food and do not use any goods or anything).

## RESULTS

As shown in Table 1, all hotels and guest houses have a perfectly favorable condition (100%) for having operators' medical examination card, personal health, and general cleanliness at the place of work.

In addition, all hotels have a perfectly desirable condition (100%) regarding the availability of suitable work clothes for the workers, the availability of a restroom in proportion to the number of workers, and the ban on smoking in the workplace.

According to the table: workers in 28.6% of hotels and 12.5% of guest houses do not have the right clothes (means formal clothes that suitable for hotel kitchen). 28.6% of hotel operators and workers and 37.5% of guest houses did not receive a valid health certificate. In addition, 12.5% of the guest houses are free of proper clothing and clothes place, and 37.5% lack adequate restrooms. In 87.5% of the guest houses, there is no smoking in the work environment.

As shown in Table 2, all hotels and guest houses are perfectly in desirable condition (100%) regarding healthy water, the sewage system, the floor area of the building, the proportion of the number of toilets, and bathrooms to workers. In all the guest houses, the perfect condition is for the walls and the roof of the building. However, in hotels, 85.7% regarding walls resistance and 71.4% regarding proper roof condition are in compliance with the regulations. Table 2 shows the status of the doors and windows of 28.6% of hotels and 12.5% of the

**Table 1: Frequency distribution of the condition of public health of hotels and guest houses of Kashan in accordance with Article 13**

Regulations	Hotel, frequency (%)		Inn, frequency (%)	
	Conformity	Inconformity	Conformity	Inconformity
Medical examination card	7 (100)	0	8 (100)	0
General cleaning of the workplace	7 (100)	0	8 (100)	0
Preparing suitable work clothes for workers	5 (71.4)	2 (28.6)	7 (87.5)	1 (12.5)
The place of workers' clothes	7 (100)	0	7 (87.5)	1 (12.5)
Workers' rest room	7 (100)	0	5 (62.5)	3 (37.5)
Prohibition of smoking by staff	7 (100)	0	7 (87.5)	1 (12.5)
Obtaining a health certificate	5 (71.4)	2 (28.6)	5 (62.5)	3 (37.5)

**Table 2: Frequency distribution of improvement of hotels and guest houses in the city of Kashan according to Article 13**

Regulations	Hotel, frequency (%)		Inn, frequency (%)	
	Conformity	Inconformity	Conformity	Inconformity
Robustness of the walls of the building (visible and noncracked and restored this means robustness is ok)	6 (85.7)	1 (14.3)	8 (100)	0
The condition of the roof of the building (noncracked and restored in roof)	5 (71.4)	2 (28.6)	8 (100)	0
The status of the doors and windows regarding type and the presence of insect proof	5 (71.4)	2 (28.6)	7 (87.5)	1 (12.5)
Water health (in sanitary engineering have measuring water for water chlorine that domain of 0.5 mg/l until 0.8 mg/l is ok and means water is healthy)	7 (100)	0	8 (100)	0
The existence of a sewage collection system	7 (100)	0	8 (100)	0
The appropriate number of toilets and washrooms (in hotel each one room must be have one toilet and one washrooms, but in Inn each 4 room must be have two toilet and two washrooms)	7 (100)	0	8 (100)	0
The presence of a bathroom is proportional to the number of workers	7 (100)	0	8 (100)	0
The position of the floor regarding slope and equipment (balance of floor is important because slope for outlet water must be easy and equipment means floor must be have sewage and water outlet)	7 (100)	0	8 (100)	0

guest houses regarding gender and the existence of a window lining which does not meet the requirements specified in the regulation.

According to Table 3, all hotels and guest houses have perfectly desirable (100%) warm and cold showers. In addition, these conditions are meet regarding the number of sinks, shelf for dishes, the presence of a toilet in each room and no use of copper, wooden, lead, and lid-free containers. In addition, in all the guest houses, the conditions are perfectly favorable (100%) due to the availability of enough, covered and washable trash cans, proportional to the area of the room and the number of beds, and the disinfection of fabric materials in the appropriate place and the presence of healthy and clean containers. About 28.6% of hotels do not have proper condition regarding healthy work table, food storage with proper volume, the presence of a thermometer, refrigerator maintenance, sufficient and washable trash cans, the proportion of room area and bed numbers, and the presence of healthy and clean containers referred to Article 13 of the Code. According to Table 3, 57.1% of the hotels and 37.5% of the guest houses have followed the pallet in the warehouse. About 14.3% of the hotels do not have the proper place to rinse and disinfect fabrics. Nearly 62.5% of the

guest houses have a thermometer in the refrigerator and shelf. About 12.5% of the guest houses use worn out beds, wooden, copper, lead, and no lid dishes in the kitchen. Nearly 75% of the guest houses have a bathroom in each room, and refrigerator cleaning and kitchen table are acceptable. Fifty percent of the guest houses do not have a good food store. About 62.5% of the guest houses do not have suitable dishwasher for dishes and pallets in the warehouse.

According to Table 4, all hotels and guest houses have a first aid box, appropriate lighting, and fire forecasting. All hotels and half of the guest houses have an air-conditioning on top of the baking machine. Nearly 87.7% of hotels and 50% of the guest houses have proper air conditioning in the food store. About 85.7% of hotels and 87.5% of guest houses have stairs guard, and 14.3% of the hotels maintain depreciated and extra facilities.

According to Table 5, 14.3% of hotels and 75% of guest houses are lacking suitable vehicles for the transportation of perishable materials, and 85.7% of hotels and 12.5% of guest houses have carriage for dry goods and sweets. Nearly 42.9% of drivers of food vehicles in hotels and 87.5% in guest houses did not have a health examination card. In 42.9% of hotels and

**Table 3: Frequency distribution of the condition of the equipment of hotels and guest houses in the city of Kashan according to Article 13**

Regulations	Hotel, frequency (%)		Inn, frequency (%)	
	Conformity	Inconformity	Conformity	Inconformity
Proportionally to the number and capacity of the dishwasher with the dishes	7 (100)	0	3 (37.5)	5 (62.5)
Racks for containers	7 (100)	0	5 (62.5)	3 (37.5)
A healthy and washable table	5 (71.4)	2 (28.6)	6 (75)	2 (25)
Food storage with proper food	5 (71.4)	2 (28.6)	4 (50)	4 (50)
Pallet in stock	4 (57.1)	4 (42.9)	3 (37.5)	5 (62.5)
Thermometer in the refrigerator and cold	5 (71.4)	2 (28.6)	5 (62.5)	3 (37.5)
Refrigerator cleaning	5 (71.4)	2 (28.6)	6 (75)	2 (25)
Enough dust and can be washed away	5 (71.4)	2 (28.6)	8 (100)	0
Fit the area of the room and the number of beds (in law of sanitary engineering area of the room and number of beds must be fit per one person)	5 (71.4)	2 (28.6)	8 (100)	0
Wash hand in each room	7 (100)	0	6 (75)	2 (25)
Appropriate number of hot and cold water showers	7 (100)	0	8 (100)	0
Disinfection of clothing and cloth in a suitable place for washing	6 (85.7)	1 (14.3)	8 (100)	0
There are healthy and clean containers	5 (71.4)	2 (28.6)	8 (100)	0
No use of leaded copper wooden cases without lid (nonuse of copper, wood, lead, and lid containers and without door)	7 (100)	0	7 (87.5)	1 (12.5)
Lack of use of depreciated beds	6 (85.7)	1 (14.3)	7 (87.5)	1 (12.5)

**Table 4: Frequency description of the safety of hotels and guesthouses in the city of Kashan according to Article 13**

Regulations	Hotel, frequency (%)		Inn, frequency (%)	
	Conformity	Inconformity	Conformity	Inconformity
There is a first aid box at the suitable place	7 (100)	0	8 (100)	0
An air vent hood on top of the cooking machine	7 (100)	0	4 (50)	4 (50)
The presence of ventilation in the kitchen	6 (85.7)	1 (14.3)	4 (50)	4 (50)
The intensity of the lighting is proportional to the location (with lux meter victor 1010A digital lux meter)	7 (100)	0	8 (100)	0
Fire forecasting with regard to workload and number of workers	7 (100)	0	8 (100)	0
Presence of protection and nonslipping on the stairs	6 (85.7)	1 (14.3)	7 (87.5)	1 (12.5)
Nonmaintenance of additional and nonconsumable food items	6 (85.7)	1 (14.3)	8 (100)	0

**Table 5: Frequency distribution of transportation status of hotels and guest houses in the city of Kashan according to Article 13**

Regulations	Hotel, frequency (%)		Inn, frequency (%)	
	Conformity	Inconformity	Conformity	Inconformity
The presence of a vehicle suitable for moving corruption materials	6 (85.7)	1 (14.3)	2 (25)	6 (75)
The presence of vehicles equipped with a chamber to carry nuts and sweets	6 (85.7)	1 (14.3)	1 (12.5)	7 (87.5)
Providing a health card by drivers of food transportation vehicles	4 (57.1)	3 (42.9)	1 (12.5)	7 (87.5)
Prohibition of the carriage of goods other than foodstuffs by food transportation vehicles	4 (57.1)	3 (42.9)	0	8 (100)

all guest houses, the separation of food vehicles from nonfood items has not been done.

## DISCUSSION

Shariat studies in Hamedan in 1375 indicated that 80% of the hotels and guest houses in this city had poor health standards. This percentage was zero for Hamedan hotels.<sup>[26]</sup> Compared to shariat studies in Hamedan, residential centers of Kashan,

regarding health indicators, have a better situation than Hamadan. Babak Farzin, in a survey of residential centers in Qom, said that in 29% of the visits the health card of at least one of the working people has been unreliable, and the reason for this was a large gap between two visits of health experts and the lack of attention of hotel managers to individual health. At the time of study, however, all hotel staff and guest houses in Kashan had a valid health card. This finding and the existence of 80% frequency of providing suitable work



clothes for workers shows the attention to personal health by operators in Kashan centers.<sup>[26]</sup>

A review of Babak Farzin and Mohammad Khazaei in Qom in 1385 showed that 9.7% of residential centers were in poor health and 54.4% in improvement criteria. To improve the quality of these residences, training of managers and staff to get acquainted with health issues and foreign language should be mainstreamed.<sup>[26]</sup> Babak Farzin's studies in Qom show the optimal situation for Kashan residential centers regarding improvement. However, the lack of resistance of the building walls and the inadequacy of the ceiling status of some hotels require for more attention. The use of depreciated beds in <15% of hotels and guest houses in Kashan and the use of inappropriate dishes in 12% of guest houses show the need for more attention in these areas. In addition, the lack of sufficient, closed and washable trash cans can be compensated at 28.6% of the hotels at a very low cost. Barzegar defines tourism health as a new branch of public health aimed at providing health to operators, tourists, and ultimately the health of the community as a whole.<sup>[1]</sup> The lack of 33.3% of the inadequate ventilation in the food store of all hotels and guest houses and the absence of ventilation on top of the cooker. Nearly 26.7% of these centers are of particular importance for staff occupational safety and health. Mostly residential centers in Kashan use drivers without health card. Accordingly, the training of center operators is essential for the use of trained and fixed people.<sup>[27,28]</sup>

## CONCLUSION

The annual visit of 1.5 million tourists from the natural attractions and historical sites of the city of Kashan has ranked fifth in the country's tourism revenue and tourist attraction. In addition, the 12% increase in tourists in Nowruz 94 compared to the last year shows the importance of paying more attention to health and welfare equipment. Increasing gross income, creating jobs, and reducing the dilemmas caused by unemployment are among the benefits of tourism development in Kashan.

Kashan is located in an earthquake zone that 15 faults threaten it. The occurrence of the earthquake can cause a lot of casualties in this area, due to the existence of old tissue (Ancient city in Kashan and the need to improve and restructure the buildings of some hotels, respecting the standards of rehabilitation of public places, such as hotels and guest houses in cooperation with relevant offices is required. Instead of spending credits on decorating and building measures, more attention should be paid to meet technical and safety points at residential centers. Totally, we not recorded the decoration item of hotels; however, we told instead of spending credits on decorating and building measures for attractive customer, more attention should be paid to meet technical and safety points at residential centers. Therefore, paying more attention to health education courses by all employees of these places should be taken to maintain the health of tourists and ultimately to ensure the health of the community.

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## Conflicts of interest

There are no conflicts of interest.

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