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Assessment of Environmental Health Status and Compliance with Health Standards in Dental Clinics in Ardabil, Iran (2026)

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ABSTRACT

Dental clinics, as public centers, must comply with environmental hygiene principles to reduce the risks of contamination and transmission of important diseases such as hepatitis and AIDS. The present study was conducted with the aim of determining the environmental hygiene status of dental clinics in Ardabil in 2026. In this descriptive cross-sectional study, 13 active dental clinics in Ardabil were surveyed using a census method. The required information was collected from dental offices based on a health inspection checklist with form code 920318/111. The data were analyzed using Excel software. The status of the health indicator studied in the section of specific criteria of dental clinics was in accordance with the regulations, with a frequency of 90.38%, and the section of hygiene of tools and equipment and waste management violated the regulations, with frequencies of 73.37, and 72.12%, respectively. Overall, the level of compliance with the regulations in the present study in 1404 was assessed with a frequency of 80.48%. To improve the health indicators of the dental clinics studied, it is recommended to hold training courses on the principles of disinfection and sterilization of equipment, continuous monitoring by environmental health experts, implementation of a self-control and self-declaration process, raising awareness about the use of standard personal protective equipment, and providing the necessary platforms to utilize the capacity of private companies active in the field of decontamination of infectious waste produced in the dental clinics studied.

Highlights

* Environmental health compliance in surveyed Ardabil dental clinics reached 80.48%.
* Clinics achieved 90.38% compliance with the assessed environmental health criteria.
* Instrument and equipment sterilization showed 73.37% non-compliance across clinics.
* Infectious waste management was a major risk, with 72.12% of clinics non-compliant.

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1. Introduction

The management, maintenance, expansion, and promotion of health in human societies is one of the basic policies for achieving social justice in countries, and this goal has always been a national priority as an important human need and an individual and social value (Vishteh et al., 2010; World Health Organization [WHO], 2000). The principles of the Iranian Constitution also emphasize the provision of health and treatment as one of the main needs of the people (Hatami et al., 2015). Health systems include all organizations, institutions, and resources that provide health services, and their main goal is to promote the health of the community (WHO, 2000). According to the definition of the Environmental Health Regulations approved by the Council of Ministers in 2013, dental offices and clinics provide health and treatment services

to patients as public places (Alihoseini et al., 2016; Environmental and Occupational Health Centre, 2013). In providing dental services, there is a possibility of dentists and patients coming into contact with contaminated blood, mucus, or saliva, which can expose them to severe contamination.Failure to control risk factors associated with these services can lead to the spread of dangerous diseases such as hepatitis and AIDS (Rezaeipandari et al., 2015). Compliance with environmental hygiene principles, including the provision of safe drinking water, sanitary disposal of wastewater, waste management, and proper disinfection of instruments, is of great importance. Also, employees' attention to hygiene standards such as proper hand washing and the use of disposable items is effective in promoting the health of clients (Mokhtari & Babaei, 2006). According to Article 7 of the Environmental Health Regulations, the Ministry of Health is required to control public places such as dental clinics in terms of environmental hygiene principles (Zakerjafari & Mohammadi Salami, 2008). In recent years, numerous studies have been conducted to examine the environmental hygiene indicators of medical and dental offices, each of which has examined a part of these environmental hygiene standards and principles.

Among other things, in the section on waste management and proper waste disposal, it has been stated that very large amounts of infectious and hazardous waste are produced daily in medical clinics around the world. In the 1980s and 1990s, exposure to the AIDS and hepatitis B viruses led to an increase in the potential risk of exposure to medical waste, and caused the waste produced in these centers to be a threatening factor for the health of doctors, patients, staff, and even buildings adjacent to these centers (Bokhoree et al., 2014). Numerous other studies have also examined microbial and infectious contamination resulting from failure to comply with hygiene standards in offices and clinics, especially dental and medical offices, which is related to the environmental health index of ensuring the health and hygiene of clients and relevant staff (Al-Omari & Al-Dwairi, 2005; Alipour et al., 2009; Askarian et al., 2007; Sarir & Zandinezhad, 2006).

In a study by Shahbazi et al. in Nahavand city in 2005, it was evident that medical offices did not meet the expected environmental health indicators. In this study, there were problems in the correct principles of disinfection of tools and equipment, the construction of sanitary facilities, unsanitary disposal of sewage, and improper management of production waste (Shahbazi et al. 2009). In another study, Ali Hosseini et al. in Bushehr city in 2012 studied the indicators of building sanitation, the condition of sanitary facilities, waste management, ensuring the health of clients, safety, sewage disposal, and the condition of sanitary facilities, and in general, the centers providing health and medical services had favorable conditions in terms of hygiene in most of the indicators studied (Alihoseini et al. 2016). Now, considering the importance of the subject and the lack of coherent research in evaluating the environmental health indicators of dental clinics in Ardabil city, the results of this study can play an effective role in providing basic information to help managers and planners of health and treatment centers in Ardabil city, to establish preventive measures in adverse health cases, and to inform citizens. Therefore, efforts to improve and promote the level of environmental health of dental clinics, through making appropriate decisions, providing practical solutions, and allocating sufficient resources, especially in the environmental health sector, are expected to achieve the desired situation. This study was conducted with the aim of determining the environmental health status of dental clinics in Ardabil city-2026.

2. Materials and Methods

In this descriptive-cross-sectional study, 13 dental clinics in Ardabil city were surveyed in 1404 using a census method. The required information was collected by reviewing the documents available in the comprehensive urban health service centers and based on the health inspection checklist for dental offices with form code 920318 / 111. This checklist was developed based on the guidelines of the Health and Workplace Center and includes 62 questions in the fields of personal health of employees (13 questions), hygiene of tools and equipment (13 questions), health and safety of buildings (20 questions), waste management (8 questions), and specific regulations of dental clinics (8 questions). The collected data were analyzed using Excel software. The following relationship was used to obtain the health status of each part of the checklist and the percentage of compliance and non-compliance of the evaluated parameters (Alihoseini et al., 2016; Nourmoradi et al., 2017).

$$Percentage\ of\ compliance\ with\ health\ regulations = \frac{Regulation\ compliance\ frequency\ data}{Total\ frequency\ data} * 100 \qquad (1)$$

3. Results and Discussion

Tables 1 to 5 show the health status of the studied indicators, broken down into the personal health status of employees, hygiene of tools and equipment, health and safety of the building, waste management, and specific regulations of dental clinics in Ardabil city. In examining the personal health indicators of the studied dental clinics, the existence of health deficiencies in the areas of not using healthy, clean, and brightly colored gowns and not using personal protective equipment in 38.46 Percent and not properly disinfecting the suction unit and its components in 46.15 percent of the studied dental clinics was evident (Table 1).
The present study was conducted with the aim of determining the environmental health indicators of dental clinics in Ardabil in 1404. In examining personal health indicators, the results showed that the failure to use a clean, bright-colored gown and

the failure to use personal protective equipment were in 38.46% of cases that were contrary to the regulations. In a study conducted by Bastami et al. on the subject of investigating the status of infection control in dental offices and clinics in Qazvin province in 1393, the results indicated that the use of a clean gown and personal protective equipment during work by dentists was in 55.80 and 33.70% of cases that were contrary to the regulations, respectively (Bastami et al. 2014). In another study on the subject of knowledge, understanding, and attitude of dentists about COVID-19 and infection control among Jordanian dentists in 2019, the results showed that the use of gowns and personal protective equipment (dental glasses, masks, and gloves) was observed by dentists in 82.6% and 92.9% of cases, respectively (Khader et al., 2020). Also, in this section, the lack of proper disinfection of the suction unit and its components was evident in 46.15% of the dental clinics studied. In the excellent study by Hosseini et al. on the subject of environmental hygiene in private offices, laboratories and radiology in Bushehr city in 2014, the results showed that disinfection of the dental unit and its other accessories was carried out correctly in 97.80% of the units studied (Alihoseini et al. 2016). The Infection Control Guide for Dental Clinics, developed by the Centers for Disease Control (CDC), emphasizes the use of gloves, masks, and changing them for each patient, the wearing of gowns, eye protection by dentists, and measures such as vaccination, sterilization, and proper disinfection of dental instruments and surfaces to reduce the possibility of infection transmission (Rezaeipandari et al., 2015).

Table 1 The status of personal health indicators in dental clinics in Ardabil city in 2026

Parameters	Health Status (%)	
	Compliance with regulations	Non-Compliance with regulations
*Proper hand washing	100	0
Hand washing guide	92.31	7.69
Prohibition of work for employees with infectious diseases	100	0
Prohibition of sale and use of tobacco products	100	0
Installation of a label prohibiting the use of tobacco products	84.62	15.38
Use of clean, healthy, and brightly colored gowns	61.54	38.46
A designated place for storing equipment	92.31	7.69
Vaccination of medical staff against diseases	76.92	23.08
Infection control training certificate specific to medical staff	76.92	23.08
Use of personal protective equipment	61.54	38.46
Use of sterile disposable equipment	100	0
Decontamination of the suction unit and its components	53.85	46.15
A sterile examination set for each patient	100	0

* *Critical cases*

In the section on hygiene of instruments and equipment, the most important critical non-conformities include failure to observe the correct principles of disinfection and sterilization of instruments and equipment used in 46.15 and 53.85 percent of the units studied, respectively. Also, according to the surveys conducted in none of the dental clinics studied in Ardabil city, the self-control and self-declaration process of hygiene was carried out (Table. 2).

Table 2 Status of health indicators of tools and equipment in dental clinics in Ardabil city in 2026

Parameters	Health Status (%)	
	Compliance with regulations	Non-Compliance with regulations
*Use of disposable razors and needles	100	0
*Adherence to the correct principles of disinfection of instruments and equipment	53.85	46.15
*Sterilization of the instruments used	46.15	53.85
Use of a standard periapical radiography device	100	0
Arrangements for washing and disinfecting instruments and equipment	69.23	30.77
Standard disinfectant and disinfection solutions	76.92	23.08
Separate sink for hand washing for clients	100	0
Existence of a separate sink for washing instruments	76.92	23.08
Standard materials and medicines	100	0
Condition of shelves, drawers, etc.	76.92	23.08
Condition of chairs, furniture, etc.	76.92	23.08
Installation of a first aid kit with necessary items	76.92	23.08
Self-control and self-declaration process of hygiene by the owner	·	100

* *Critical cases*

In the section on hygiene of instruments and equipment, and among the most important critical non-conformities in this section, we can mention the failure to observe the correct principles of disinfection of instruments and equipment in 46.15% and the failure to sterilize the instruments used in 53.85% of the units studied. In a study conducted in 2008 to compare environmental health indicators of private clinics in Chaharmahal and Bakhtiari province, Fadaei et al. stated that disinfection of tools and equipment was not performed correctly in 66.40% of the units studied (20). It seems that expanding the necessary training by environmental health inspectors, focusing on the correct principles of hand disinfection and disinfection and sterilization of dental instruments and tools can be effective in improving the knowledge and performance of dentists. Also, in the present study, there was apparently no requirement from the

comprehensive health service centers of Ardabil city to implement the self-control and self-declaration process. Using the capacity of self-control and self-declaration, health companies can be useful in improving the performance of centers providing health and medical services such as dental clinics. In a study in Dareh Shahr in 1402, Mirzaei et al. stated that implementing the self-control and self-declaration process of hygiene is necessary and essential and can only be achieved with the follow-up of health authorities (Mirzaei et al. 2023).

In the building health and safety section, the water supply system was in compliance with regulations in 100 Percent of cases. Also, among the health deficiencies in this section, we can mention the discrepancy in the condition of the toilets and the condition of proper ventilation with a frequency of 46.15 Percent, as well as the discrepancy in the condition of the fire extinguisher with a valid charge with a frequency of 53.85 percent (Table. 3).

Table 3 Status of health and safety indicators of dental clinic buildings in Ardabil city in 2026

Parameters	Health Status (%)	
	Compliance with regulations	Non-Compliance with regulations
* Water supply system	100	0
Sewage collection and disposal system	84.62	15.38
Necessary preparations for controlling insects and rodents	84.62	15.38
Standard heating and cooling system	100	0
Standardization of the dental unit space	84.62	15.38
Rest room condition	84.62	15.38
Toilet condition	53.85	46.15
Healthy flush tank in the toilet	76.92	23.08
Wall covering of the washing area	69.23	30.77
Floor covering of the building	92.31	7.69
Wall covering of the building	84.62	15.38
Roof covering of the building	84.62	15.38
Doors and windows	92.31	7.69
Temperature and humidity	84.62	15.38
Optimal lighting	92.31	7.69
Optimal ventilation	53.85	46.15
Fire extinguisher with valid charge	46.15	53.85
Sanitary condition of the water supply building	92.31	7.69
Compliance with hygiene principles in the water supply	84.62	15.38
Safety compliance status	92.31	7.69

* *Critical cases*

General principles and criteria of environmental hygiene, such as the provision and supply of safe drinking water, proper disposal of sewage and waste, provision of humidity, proper light and ventilation, standard physical space, toilets and sanitary facilities, and compliance with hygiene standards by medical staff are effective and important in ensuring public health and controlling infections (Pasquarella et al., 2010). In the present study and in the building health and safety section, discrepancies in the condition of sanitary facilities and proper ventilation were evident in 46.15% and the condition of fire extinguishers with valid charges in 53.85%. In a study by Shahbazi et al. in Nahavand in 2005, the poor condition of sanitary facilities was reported to be in violation of regulations in 18.85% of the units studied (Shahbazi et al. 2009). Also, in a comprehensive study by Hosseini et al. in Bushehr in 2012, the condition of sanitary facilities and toilets violated regulations in 18% of the units studied, the condition of air conditioning in 20.09, and the condition of fire extinguishers in 40.48% of the units studied (Alihoseini et al. 2016). Failure to address the condition of sanitary facilities and toilets, failure of flush tanks, improper cleaning of toilets, unpleasant odors due to failure of hoods, and failure to properly place and charge fire extinguishers were among the reasons for the low level of compliance with regulations in the health and safety section of the buildings in the units studied. Continuous monitoring by environmental health experts, decisive action, and identification of offending centers with health deficiencies are recommended to address these non-conformities. In the section on waste management indicators, in the context of the critical situation related to the proper disposal of sharps and cutting waste in 30.77% of dental clinics, there was a clear violation of the regulations. The collection of surgical blades and used needles in a safe box in accordance with health regulations should be considered (Hokmabadi et al., 2013). In the excellent study by Hosseini et al. in Bushehr in 2012, the failure to use a safe box and the unprincipled disposal of sharps and cutting waste in 11.90% and the unprincipled disposal of infectious waste in 7.60% of the units studied were in violation of the regulations (Alihoseini et al. 2016). In the present study, records of waste decontamination were evident in only 46.15% of the units studied.It seems that using the capacity and services of companies trusted by the Ministry of Health in the collection and disposal of infectious waste generated by medical centers such as the dental clinics studied can be effective in improving the waste management process. Poor management of medical waste exposes medical and healthcare staff, waste collection staff, and communities around these centers to infections, effects, and injuries from the toxicity of medical waste, which has led to serious health problems in most developing countries (Alihoseini et al. 2016). It is essential to observe the principles of temporary waste storage, separate hazardous infectious waste from regular waste, and transport waste according to a continuous schedule in health care centers. Other inconsistencies in the waste management sector include the poor condition of temporary storage facilities and the frequency of daily waste collection in 38.46% of the units studied. In a study by Pak Fetrat et al. on the subject of investigating the status of waste management in Iranian dental centers in 2018, the results showed that by separating the recyclable part of dental waste from other parts, the volume

of waste and consequently the costs related to waste collection and disposal are reduced (Pakfetrat et al. (2018).

In the section related to waste management indicators, the critical parameter of proper disposal of sharps and cutting waste was found to violate the regulations in 30.77 percent of dental clinics. Also, among the non-conformities in this section, we can mention the inadequate condition of the temporary storage location and the frequency of daily waste collection in 38.46 percent and the lack of contract records with waste decontamination companies in 53.85 percent of the units studied (Table 4).

Table 4 Status of waste management indicators in dental clinics in Ardabil city in 2026

Parameters	Health Status (%)	
	Compliance with regulations	Non-Compliance with regulations
* Proper disposal of sharp and cutting waste	69.23	30.77
Use of colored bags to separate waste	76.92	23.08
Contract records with waste disposal companies	46.15	53.85
Lid, pedal-operated and washable trash cans	84.62	15.38
Temporary waste storage area	61.54	38.46
Daily waste collection frequency	61.54	38.46
Separation of infectious and non-infectious waste	76.92	23.08
Proper and principled disposal of amalgam and other consumable materials	100	0

* Critical cases

In the specific regulations section of dental clinics, the status of users' training records on working with radiation and the lack of use of personal protective equipment against radiation were evident in 38.46 and 23.08 percent of cases, respectively, in violation of the regulations (Table. 5).

Waste produced in dental clinics in Ardabil city was stored in temporary waste storage facilities in an unprincipled manner, sometimes for 2 to 3 days, which shows the disregard for the importance of principled waste management by the units studied. In the excellent study by Hosseini et al. in Bushehr in 2012, the frequency of waste collection was appropriate in only 89% of the units studied (Alihoseini et al. 2016). Also, in the study by Shahbazi et al. in Nahavand in 2005, 12.50% of the units studied lacked a suitable place for temporary storage of waste (Shahbazi et al. 2009). Expanding educational programs and distributing brochures on waste management, continuous monitoring of the process of waste separation and disposal by environmental health experts working in health centers, and also communicating the comprehensive waste management policy by the provincial health center to all clinics and dental offices operating in Ardabil city are recommended to improve the performance of the units studied.

Table 5 Status of indicators related to specific criteria of dental clinics in Ardabil city in 2026

Parameters	Health Status (%)	
	Compliance with regulations	Non-Compliance with regulations
Status of construction of a dental radiography center on the lower floors	100	0
Installation of a lead screen or lead chamber in the dental radiography center	100	0
Radiography device with quality control approval	100	0
Records of training course on working with radiation for users	61.54	38.46
Use of personal protective equipment against radiation	76.92	23.08
Establishment of the center in a non-residential building	100	0
Sketch and plan of the unit building	92.31	7.69
Installation of a compressor in a space away from rooms and waiting rooms	92.31	7.69

* *Critical cases*

In Fig. 1, the overall and separate averages of the total indicators of personal hygiene, hygiene of tools and equipment, building hygiene and safety, waste management, and specific criteria of dental clinics in Ardabil city in 2026 are expressed as percentages.

As can be seen in Fig. 1, the status of the health indicator studied in the specific criteria section of dental clinics was in accordance with the regulations with a frequency of 90.38 Percent, and the hygiene of tools and equipment and waste management sections conflicted with the regulations with a frequency of 73.37 and 72.12 Percent, respectively. Overall, the level of compliance with the regulations in the study of environmental health indicators of dental clinics in Ardabil in 2026 was assessed with a frequency of 80.48 Percent (Fig. 1).

In the section on specific criteria for dental clinics, the lack of records of users' presence in the radiation work period was evident in 38.46% of the units studied. Radiation training courses for users who work with ionizing radiation are held in the form of introductory and advanced courses under the supervision of the Radiation Protection Office of the Atomic Energy Organization of Iran; the validity of these courses is one year, and users must participate in refresher courses. Also, in this section, the use of personal protective equipment by dentists while working with radiation was contrary to regulations in 23.08% of the units studied. Hokamabadi et al. in North Khorasan Province in 2012 stated that there were no gonadal and thyroid shields in 2 hospitals and one hospital lacked radiation warning signs (Hokmabadi et al. 2013). In a study by Hosseini et al. in Bushehr in 2012, the results showed that the use of personal protective equipment (such as lead aprons, gonadal and thyroid protectors) by 76.6% of dentists and 100% of personnel working in the radiology department

of the studied units was in accordance with the regulations (Alihoseini et al. 2016). Given the importance of observing safety and security issues in this sector, environmental health experts should, in accordance with the provisions of the regulations for inspecting dental offices, provide necessary and continuous training on the principles of protection and safety of working with radiation for employees working in dental clinics in Ardabil. According to the results of the present study, the status of the health index under study in the specific regulations of dental clinics was in accordance with the regulations with a frequency of 90.38%, and the health of tools and equipment and waste management violated the regulations with a frequency of 73.37% and 72.12%, respectively. In the excellent study by Hosseini et al. on the subject of environmental health of private offices, laboratories, and radiology in Bushehr city in 2012, the status of building health indicators, health services, waste management, ensuring the health of clients, safety, sewage, and health facilities was in a desirable state with an average of 85.3, 82, 87.2, 75.8, 61.1, 95.3, and 99.1%, respectively (Alihoseini et al. 2016).

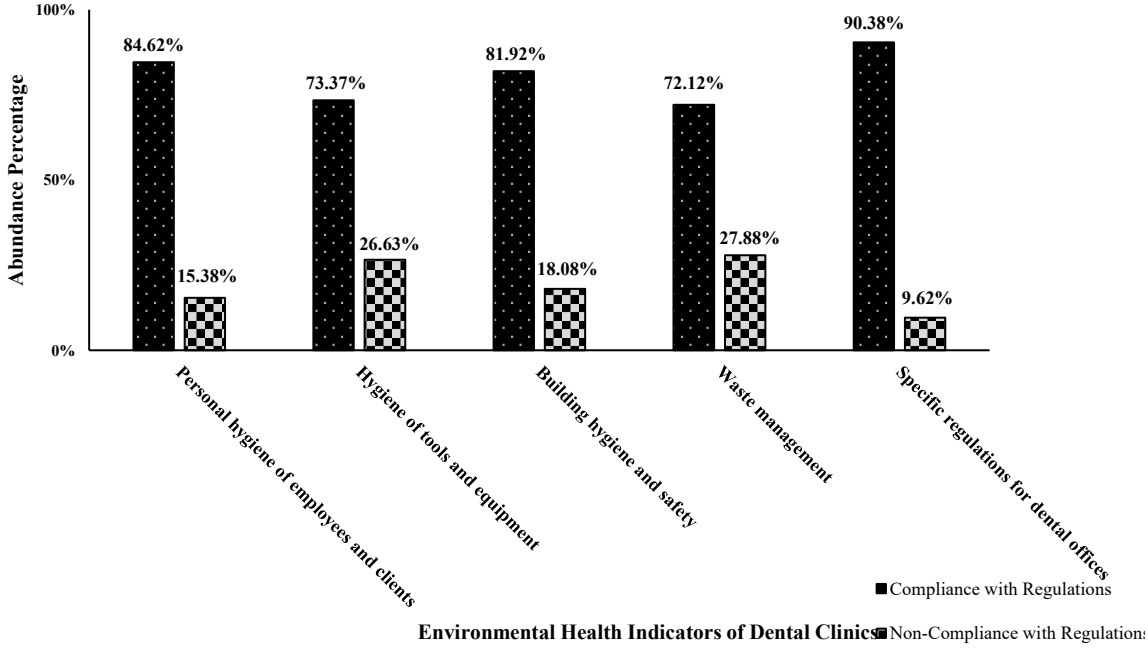


Fig. 1 General status of environmental health indicators of dental clinics in Ardabil city in 2026

4. Conclusion

In the present study, and in general, the level of compliance with the regulations in the environmental health indicators of dental clinics in Ardabil city in 1404 was assessed at 80.48%. The results indicated that dental centers in Ardabil city are involved in environmental health challenges such as the lack of use of personal protective equipment by medical staff, lack of attention to disinfection and sterilization of used tools and equipment, poor condition of sanitary facilities, ventilation and fire extinguishing equipment, improper management of waste produced in the centers, and lack of training records on working with radiation for users. Therefore, to improve the environmental health indicators of the dental clinics under study and eliminate health non-conformities, especially in the areas of instrument and equipment hygiene and waste management, it is recommended to hold training courses on familiarizing oneself with the correct principles of disinfection and sterilization of equipment, continuous monitoring by environmental health experts, implementation of a self-control and self-declaration process, raising awareness about the use of standard personal protective equipment, and providing the necessary platforms to utilize the capacity of private companies active in the field of management and decontamination of infectious waste produced in the dental clinics under study

Statements and Declarations

Ethical considerations

Ethical issues (Including plagiarism, informed consent, misconduct, data fabrication and/or falsification, double publication and/or submission, redundancy, etc.) have been completely observed by the author.

Data availability

Data will be made available on request.

Conflicts of interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Author contribution

MH. Abbasi: Writing the main Draft; F. Nami, M. Nami, and A. Abbasi: Conceptualization; Writing – Review & Editing, Conceptualization, Methodology, Review, and Final Proof.

AI Use Declaration

During the preparation of this manuscript, the authors used AI tools for designing the Graphical Abstract. All content has been carefully reviewed and revised by the authors, who take full responsibility for the final version of the manuscript.

References

Al-Omari, M. A., & Al-Dwairi, Z. N. (2005). Compliance with infection control programs in private dental clinics in

Jordan. *Journal of Dental Education*, *69*(6), 693–698. https://doi.org/10.1002/j.0022-0337.2005.69.6.tb03953.x

Alipour, V., Iraqizadeh, A. M., Dindarlu Inalo, K., & Rezaei, L. (2009). The status of infection control in the dental offices of Bandar Abbas city in 2015. *Medical Journal of Hormozgan University*, *12*(2), 115–120. (In Persian).

Alihoseini, N., Ravanipour, M., Motamed, N., & Mohammadi Baghmolaei, M. (2016). Assessment of the environmental health status of private clinics, laboratories and radiologies of Bushehr in 2012. *Iranian South Medical Journal*, *19*(3), 284–295. (In Persian). https://doi.org/10.18869/acadpub.ismj.19.2.284

Askarian, M., Mirzaei, K., & Cookson, B. (2007). Knowledge, attitudes, and practice of Iranian dentists with regard to HIV-related disease. *Infection Control & Hospital Epidemiology*, *28*(1), 83–87. https://doi.org/10.1086/509851

Bastami, F., Samyari, H., & Rashvand, N. (2014). Status of infection control in dental offices and clinics of Qazvin province. In *Proceedings of the 16th Conference of the Iranian Association of Endodontists,* Isfahan, Iran. (In Persian).

Bokhoree, C., Beeharry, Y., Makoondlall-Chadee, T., et al. (2014). Assessment of environmental and health risks associated with the management of medical waste in Mauritius. *APCBEE Procedia*, *8*, 36–41. https://doi.org/10.1016/j.apcbee.2014.01.007

Environmental and Occupational Health Centre. (2013). Executive regulations of the law amending Article 13 of the Food, Beverage, Cosmetic and Hygiene Law. http://www.markazsalamat.ir (In Persian).

Fadaei, A. (2014). Comparison of environmental health indices of private clinics in Chaharmahal and Bakhtiari province, Iran. *Advances in Environmental Biology*, *8*, 2335–2338.

Hatami, H., Razavi, S. M., & Eftekhar-Ardebili, H. (2015). Public health book (3rd ed., pp. 70–85). Arjmand. (In Persian).

Hokmabadi, R. A., Younosi Haravi, M. A., Atamaleki, A., et al. (2013). Assessing the status of conservation principles in the radiation detection section in the hospital of North Khorasan University of Medical Sciences. Tabriz University of Medical Sciences, 430–431. (In Persian).

Khader, Y., Al Nsour, M., Al-Batayneh, O. B., Saadeh, R., Bashier, H., Alfaqih, M., Al-Azzam, S., & AlShurman, B. A. (2020). Dentists' awareness, perception, and attitude regarding COVID-19 and infection control: Cross-sectional study among Jordanian dentists. *JMIR Public Health and Surveillance*, *6*(2), e18798. https://doi.org/10.2196/18798

Mirzaei, K., Darvish Motevalli, M., & Mazloomi, S. (2023). Investigating environmental health and safety status of DarehShahr primary schools in 2023. *Journal of Environmental Health Engineering*, *10*(3), 340–351. https://doi.org/10.61186/jehe.10.3.340

Mokhtari, M., & Babaei, A. A. (2006). *Health of housing and public places,* Asar Sobhan, Tehran. (In Persian).

Nourmoradi, H., Haghighat, G. A., Karimi, A., & Mazloomi, S. (2017). The study of environmental health status of male student dormitories of Ilam University of Medical Sciences in 2017. *Journal of Jiroft University of Medical Sciences*, *3*(2), 164–172. (In Persian).

Pakfetrat, A., Irani, M., & Hadizadeh-Talasaz, Z. (2018). Dental waste, medical waste, waste management, dental offices, review. *NavidNo*, *21*(67), 66–76. (In Persian). DOI: 10.22038/nnj.2018.36378.1135

Pasquarella, C., Veronesi, L., Castiglia, P., et al. (2010). Italian multicentre study on microbial environmental contamination in dental clinics: A pilot study. *Science of the Total Environment*, *408*, 4045–4051. https://doi.org/10.1016/j.scitotenv.2010.05.010

Rezaeipandari, H., Ghaneian, M., Amrollahi, M., & Jafari, K. (2015). Survey of knowledge, attitude and practice of nurses in dentistry school and dental clinics of Shahid Sadoughi University of Medical Sciences towards infection control and environmental health principles. *Yazd Journal of Dental Research*, *4*(2), 532–546. (In Persian).

Sarir, M., & Zandinezhad, F. (2006). The effect of education on infection control measures in Shiraz dental offices. *Journal of Dentistry*, *6*(3–4), 17–25. (In Persian).

Shahbazi, P., Kurd, A., Saif, J., & Ehsan Khuzvand, A. (2009). Check the state of Nahavand doctors' offices in terms of compliance with environmental health indicators in 2008. In *Proceedings of the 9th National Conference on Environmental Health*, Isfahan, Iran. (In Persian).

Vishteh, H. R., Ghorbani, F., Ghobadi, O., Shafaghi, S., Barbati, M. E., Louyeh, A. R., & Najafizadeh, K. (2010). Causes and follow-up outcomes of brain dead patients in Shahid Beheshti University of Medical Sciences hospitals. *Pejouhandeh*, *15*(4), 171–178. (In Persian).

World Health Organization. (2000). The world health report 2000: Health systems: Improving performance. *World Health Organization*. https://www.jstor.org/stable/2695219

Zakerjafari, H., & Mohammadi Salami, H. (2008). Knowledge, attitude and practice of infection control in the dental prosthesis school of dentistry, Rasht. *Journal of Infectious and Tropical Diseases*, *13*(41), 71–74. (In Persian).

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