**Original Article :**

# Dentists' Attitude towards Occupational Health and Safety Policies: a cross-sectional study in the Governmental hospitals in Saudi Arabia

Abrar I. Alsaleem[1], Ebtesam A. Elsayed[2*], Shaima A. Miraj[3]

1.Master of healthcare administration, College of Health Sciences, Saudi Electronic University, Riyadh, Saudi Arabia Abrar.alsaleem@gmail.com

2.Community Health Nursing Department, Faculty of Nursing, Ain Shams University, Egypt. Department of Public Health, College of Health Sciences, Saudi Electronic University, Riyadh, Saudi Arabia e.elsayed@seu.edu.sa

3. Department of Public Health, College of Health Sciences, Saudi Electronic University, Riyadh, Saudi Arabia s.miraj@seu.edu.sa

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**Corresponding Author:**
Ebtesam A. Elsayed
Department of Public Health, College of Health Sciences, Saudi Electronic University,
P.O. Box 93499, Riyadh 11673, Saudi Arabia. Tel.: 00966 112613500 Ext 1547
Mobile phone: 00966505835391
E-mail: e.elsayed@seu.edu.sa, ; ebtesamesayed7@gmail.com

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**Abstract**

**Background & Aims:**

Dentists are exposing to several occupational hazards during their practices. Effective comprehension of workplace wellness will be optimally effective if it combines dentists' intervention along with clinical intervention, so Occupational Health and Safety (OHS) policies constructed to enhance dentists' welfare in the workplace. This study aims to assess the dentists' attitude towards OHS policies in governmental hospitals in Riyadh, Saudi Arabia.

**Methods:**

A descriptive cross-sectional study was conducted on dentists working in the governmental hospitals in Riyadh using an online self-administered questionnaire include nineteen questions distributed into five dimensions.

**Results:**

**الملخص**

**الخلفية و الاهداف :**

يعد أطباء الأسنان من أكثر الفئات فى المجتمع عرضة للعديد من المخاطر المهنية خلال ممارساتهم لمهنة طب الاسنان ، لذلك تم وضع سياسات محددة للصحة والسلامة المهنية من أجل ضمان سلامتهم وسلامة المرضى في مكان العمل. لذلك كان الهدف من هذه الدراسة هو تقييم موقف أطباء الأسنان تجاه سياسات الصحة والسلامة المهنية في المستشفيات الحكومية في مدينة الرياض بالمملكة العربية السعودية.

**طريقة البحث :**

أُجريت هذه الدراسة على أطباء الاسنان العاملين فى المستشفيات الحكومية بمدينة الرياض حيث تم إجراء دراسة وصفية مستعرضة على المشاركين بالدراسة باستخدام استبيان ذاتي يشمل تسعة عشر سؤالاً تم توزيعها في خمسة أبعاد.

**النتائج :**

شارك فى الدراسة ٢٠٠ طبيب أسنان و أظهرت النتائج أن أطباء الأسنان لديهم موقف سلبي تجاه سياسات الصحة والسلامة المهنية بمتوسط (٢,٨١ ± ٠,٦٣) ، كما أظهرت أن أبعاد الصحة والسلامة

200 dentists participate in the study. The results showed that dentists had a negative attitude towards OHS policies with a weighted mean (2.81±0.63), it also showed that OHS dimensions which impact positively the dentists' attitude were pre-employment screening and training (3.42±0.53, 3.54±0.47) respectively while OHS dimensions that impact negatively the dentists' attitude were periodic medical examination, vaccination, and work-related conditions (2.98±0.62, 3.31±0.55, 3.10±0.59) respectively.

**Conclusion:**

Dentists in governmental hospitals in Riyadh, Saudi Arabia had a negative attitude towards OHS policies, so there is a demand to improve the dentists' adherence to OHS policies through raising awareness and regulations. Also, OHS policies should be enacted and linked to re-contracting and pre-employment to enforce compliance with OHS policies.

**Keywords:**

Attitude, Dentists, Occupational Health, Safety Policies, Saudi Arabia

المهنية التي تؤثر بشكل إيجابي على موقف أطباء الأسنان كانت فحص ما قبل التوظيف والتدريب بمتوسطات (٣,٤٢ ± ٠,٥٣ ، ٣,٥٤ ± ٠,٤٧ ) على التوالي في حين أن أبعاد الصحة والسلامة المهنية التي تؤثر سلبًا على موقف أطباء الأسنان كانت الفحص الطبي الدوري والتطعيم والحالات المتعلقة بالعمل بمتوسطات (٢,٩٨ ± ٠,٦٢ و ٣,٣١ ± ٠,٥٥ و ٣,١٠ ± ٠,٥٩) على التوالي.

**الخلاصة:**

لدى أطباء الأسنان في المستشفيات الحكومية في الرياض بالمملكة العربية السعودية موقف سلبي تجاه سياسات الصحة والسلامة المهنية ، لذلك هناك ضرورة لتحسين التزام أطباء الأسنان بسياسات الصحة والسلامة المهنية من خلال رفع مستوى الوعي والالتزام باللوائح والسياسيات الخاصة بالسلامة المهنية ، أيضًا يجب تفعيل سياسات الصحة والسلامة المهنية وربطها بإعادة التعاقد وشرط من شروط التوظيف لفرض الامتثال لسياسات الصحة والسلامة المهنية.

## Introduction

The workplace has been established as one of the priority settings for health promotion into the 21st century, it directly affecting the physical, mental, economic, and social well-being of workers[1]. Being unaware of occupational hazards in the workplace makes healthcare providers in general and dentists in particular vulnerable to these occupational illnesses[2]. Adherence to occupational safety guidelines will help in preventing occupational hazards and providing a safe dental environment for dentists and patients[3]. World Health Organization (WHO) addressing all determinants of workers' health, including risks for disease and injury in the occupational environment[4]. Occupational safety and health pose numerous challenges; one of these challenges is non-adherence to Occupational Health and Safety (OHS) policies among dentists that considered a significant problem because it might cause an unsafe environment for both dentists and patients[5,6]. Occupational Health and Safety

(OHS) Policies can be defined as a multidisciplinary field which concerned with the health, safety, and welfare of individuals at work and aims to foster a healthier and safer work environment[6]. In healthcare, OHS policies may also protect workers, patients, and family members where the policies involve the interrelationship between people, work, equipment and materials, work environment, and economic considerations like productivity[7]. Through the implementation of its first five-year plan, the Ministry of Health (MOH) in the Kingdom of Saudi Arabia (KSA) made efforts to improve and redistribute dental care facilities throughout KSA to be more equitably as the MOH aims to meet the comprehensive dental needs of the population of the Kingdom[8]. To regulate and monitor dentists' attitude regarding occupational health and safety, the MOH and other concerned agencies such as the Central Board for Accreditation of Healthcare Institutions (CBAHI) and Joint Commission International (JCI) had established occupational health and safety (OHS) policies[9-11]. These policies require that dentists should be equipped with a safe and healthy place of work, a safe work system, appropriate and safe facility equipment, and finally competent staff to supervise and manage the dental services[9,12]. Apparently, the prevalence of practice-related health problems in dentistry has continued to attract the attention of policymakers and stakeholders[13]. More OHS policies are therefore being instituted to improve the practice of dentistry in accordance with (JCI) and (CBAHI)[6,7]. Workers in the practice of dentistry are exposed to various occupational hazards and continue to be susceptible to infectious respiratory diseases, noise, eye injuries, and other chemical risks[14]. This is due to the continuous alterations in the work environment in the field of dentistry which brings new challenges[5] International Commission on Occupational Health (ICOH) inspired most countries to engage in OHS for their employees as well as dentists[15]. A study conducted on some of these countries revealed that only about one-third of these countries have had organized OHS for over 50 percent of the workers. Apparently, gaps in capacity, content, coverage, and implementation are considered the main issues related to the lack of OHS in a healthcare organization[15]. Hence, non-adherence to OHS policies is a significant problem because it might cause careless dental services to patients and the mishandling of new dental equipment[2]. Studying these aspects among the dentists would make the management understand how dentists would take advantage of OHS policies. This would allow managers to provide high-quality dental servic-

es to patients and handle well new dental equipment[16]. Consequently, as a result of the increased risks in dentistry, it is important to consider the successful implementation of OHS policies to reduce such risks and enhance the welfare of the dentists in the workplace. According to "Employee Health Program Policy" and JCI OHS aspects[9,10], the dimensions of OHS that have gotten the most attention include pre-employment screening, periodic medical examination, vaccination, training, and work-related conditions. Thus, studying the attitude of dentists regarding the aforementioned OHS policy dimensions would provide a clear view for policymakers and stakeholders. The aim of this study was to assess the dentists' attitude towards OHS policies in governmental hospitals in Riyadh, Saudi Arabia. The specific objectives of the research were to:

1.Determine the attitude of dentists regarding aspects of OHS policies; and

2.Identify the relationship between dentists' socio-demographic data and attitude in regards to OHS policies.

## Materials and Methods

*Study Design:*

The study design was a descriptive cross-sectional design.

*Sample and Setting:*

A convenience sample of 200 dentists working in government hospitals in Riyadh, Saudi Arabia.

*Inclusion Criteria*

• Graduated and registered dentists who worked in government hospitals.

• Have experience more than one year as these dentists have operated for quite some time and are familiar with OHS policies.

*Data Collection Tools*

The data collection commenced in November 2018 using an online self-administered questionnaire developed by the researcher based on "Employee Health Program Policy" and JCI OHS aspects[9,10]. The tool of data collection consisted of two parts:

• The first part was concerned with socio-demographic data related to dentists' age, working place, years of experience, and job title.

• The second part was concerned with the attitude of dentists towards OHS policies using a 5-point Likert scale (Strongly disagree, disagree, neutral, agree, and strongly agree). This part comprised of five dimensions which include: pre-employment screening; periodic medical examination; vaccination; training; and work-related conditions.

*Validity and Reliability*

The pilot study has been performed on 20 dentists who were excluded from the sample size to evaluate the validity and reliability of the questionnaire in order to

detect any ambiguity in the tool, clarity of the items, as well as to determine the time consumed for data collection. Necessary modifications were carried out to develop the final form of the tool. Cronbach's alpha coefficient was used to measure the reliability of the items which equals 0.933.

*Data Analysis*

Data analysis was carried out using the Statistical Package for the Social Sciences 20.0 (IBM, SPSS). Descriptive statistics were presented as mean (M) and standard deviation (SD) for continuous data and as percentages (%) and frequencies for categorical data. Spearman's rank correlation coefficient (r) tests were used to determine the associations existing between variables. Analysis of the dentists' attitude towards OHS policies was done at a 95 percent confidence interval. A value of $p < 0.05$ was therefore considered statistically significant. Moreover, the means of Likert scale tables were calculated in regards to the cut-off point of the weighted mean for each dimension which is equal to 3.39, so a positive attitude was acknowledged if the weighted mean is more than 3.39. In contrast, a negative attitude was acknowledged if the weighted mean is less than 3.39.

*Ethical Considerations*

Informed consent was obtained from all participants for agreement to participate also a brief explanation of the study purpose and the required instructions were explained. Participation was voluntary and participants had the right to refuse to participate in the study. Confidentiality and anonymity were maintained to protect the identity and position of them.

## Results

Table (1) showed that more than one-third of the sample (41.0%) was in the age group 30-40 years. More than half (54.5%) of the participants in this study were females. (34.0%) were consultants. Regarding years of experience, the table presented that more than one-third of the sample had 5- 10 years of experience.

Table (1): Socio-demographic characteristics of dentists participated in the study (n=200).

| Parameters | Frequency (%) | |
|---|---|---|
| Age in years | | |
| 23-29 | 49 | 24.5% |
| 30-40 | 82 | 41.0% |
| >40 | 69 | 34.5% |
| Gender | | |
| Male | 91 | 45.5% |
| Female | 109 | 54.5% |
| Job title | | |
| Dental Postgraduate Student | 39 | 19.5% |
| General Practice Dentist | 58 | 29.0% |
| Dental Registrar | 35 | 17.5% |
| Consultant | 68 | 34.0% |
| Years of Experience | | |
| 1- 4 years | 44 | 22.0% |
| 5- 10 years | 74 | 37.0% |
| 11-20 years | 43 | 21.5% |
| > 20 years | 39 | 19.5% |

Table (2) concerned with the attitude of

dentists regarding dimensions of OHS policies. It showed that dentists' attitude was positive regarding pre-employment screening and training while it was negative regarding periodic medical examination, vaccination, work-related conditions, and OHS policies in general.

Table (2): The attitude of dentists regarding dimensions of OHS policies: (n=200)

| OHS dimensions | Weighted mean | SD |
|---|---|---|
| Pre-employment screening | 3.42 | 0.53 |
| Periodic medical examination | 2.98* | 0.62 |
| Vaccination | 3.31* | 0.55 |
| Training | 3.54 | 0.47 |
| Work-related conditions | 3.10* | 0.59 |
| OHS policies in general | 2.81* | 0.63 |

* Cut-off point = 3.39

Table (3) demonstrated that; the job title was significantly correlated with pre-employment screening, periodic medical examination, training, work-related conditions, and OHS policies in general, with correlation ranging between (r =.148* – r =.215**) and also there was a significant correlation between age and work-related conditions. While there was no statically significant correlation between gender and years of experience regarding OHS aspects.

Table (3): The correlation between dentists' attitude and OHS dimensions (n=200)

| OHS dimensions | Job title | p | Gender | p | Age | p | Years of Experience | p |
|---|---|---|---|---|---|---|---|---|
| Pre-employment screening | .215 | .002* | .004 | .951 | .028 | .693 | .116 | .101 |
| Periodic medical examination | .164 | .021* | .078 | .273 | .088 | .213 | .004 | .954 |
| Vaccination | .071 | .316 | -.001 | .984 | -.004 | .961 | .020 | .782 |
| Training | .148 | .036* | .005 | .947 | .029 | .682 | .104 | .145 |
| Work-related conditions | .165 | .020* | .040 | .575 | .168 | .017* | .114 | .107 |
| OHS policies in general | .169 | .016* | -.067 | .348 | .113 | .110 | -.034 | .634 |

Note. *Correlation is significant at the 0.05 level (2-tailed).

## Discussion

The present study focused on the five aspects of OHS; pre-employment screening, periodic medical examination, vaccination, training, and work-related conditions. The aim of this study was inspired by the question of what is the dentists' attitude towards OHS policies? Regarding pre-employment screening; the results showed that dentists had a positive attitude towards pre-employment screening. From these results, the dentists believed that pre-employment health screening is important in dentistry and would impact positively

on the dentists' practice. Also, this may be attributed to that the pre-employment screening is obligatory as a prerequisite of employment. The study done by El-Helaly et al. (2014)[17] claimed that pre-employment screening tests among healthcare workers in KSA are common since about 73.7 percent of the workers undergo the tests. A study done by Mahmud et al. (2012)[18] also found that pre-employment screening prevents occupational injuries and diseases breakout and their spreading to other workers. If there are risks detected after the screening, healthcare workers are subjected to risks mitigation plans such as training programs. Therefore, pre-employment screening as a policy for OHS is vital in mitigating occupational injury and also reducing the spread of possible diseases to other workers.

As regards a periodic medical examination, which is an aspect that dentists must comply with as a part of the OHS requirement; the findings of the study showed that dentists had a negative attitude towards the periodic medical examination. Despite the benefit of a regular medical review, some dentists still found reasons to provide for their different contributions. In this parameter, there were dentists who believed that periodic medical examination influences their practice positively. Those dentists who thought they know all the necessary medical examinations for their practice received the lowest ranking. The findings of this study are in agreement with the conclusion of Shires et al. (2012)[19], the author found that healthcare workers have a positive attitude towards the periodic medical examination because it reduces the cost of curing. The study done by Omokhua, et al. (2020)[20] also found that even though the level of awareness of routine medical check among dentists was high but their practice was poor. Therefore, more measures are needed to increase practice to be aligning with a high level of awareness.

Another noteworthy result of this study was that dentists had a negative attitude towards vaccination, however, the study was done by Mahasneh, et al. (2020)[3] proved that controlling infection exposure in dental care settings can be achieved efficiently by vaccination, so a comprehensive vaccination policy for dentists should be implemented. Contrary to the results of this study Al-Hazmi et al. (2015)[21] found that the majority of the dentists hinted that vaccination is safe and their positive attitude influenced their high number being vaccinated. Also, the study done by Althobati et al. (2018)[22] found that dentists value vaccination. Therefore, there is a need for the dentists to engage in further education to increase their understanding and perception of the vaccination programs.

The role of training plays a vital contribution in improving dentists' skills, the level of dentists' awareness can be enhanced through training programs so dental training is a concern in the healthcare sector. The results of this study showed that dentists had a positive attitude towards training. The results of the study were in agreement with the conclusion of Al-Hazmi et al. (2015)[21], the author concluded that dentists require additional education program that focuses on the occupational risk of lack of vaccination. In another study which evaluated the attitude of dentists towards treating individuals with disabilities, the study was conducted on senior dental students in King Abdulaziz University, Jeddah in KSA as well as students from Boston in the U.S. it concluded that dentists who were highly trained and experienced developed positive attitude in treating dental disabilities. Therefore, training is essential for better service delivery of dentists[23]. Also as recommended by the study done by Mahasneh, et al. (2020)[3], that educational programs and training strategies should be implemented to maximize the compliance of dentists, as well as enhancing the compliance of dental support staff with infection-control guidelines

Work-related conditions are a concern to many dentists, a better work-related condition encourages dentists to spend extra time in the clinic, and the contrary happens in poor work-related condition. In this study, the results showed that dentists had a negative attitude towards work-related conditions. This result may be attributed to the reason that more strategies are needed to improve work-related conditions and reduce the effects of occupational hazards in order to secure the well-being of dentists. The study done by Fischer et al. (2013)[24] asserted that the working ability of dentists is directly affected by the work-related conditions. Similarly, Da Silva et al. (2016)[25] found that work-related conditions are associated with the fatigue of the workers, and this reduces their service delivery. Thus, maintaining an improved working environment is desirable for the workability of dentists. So, it is important to promote safe work-related conditions through further study to fill the gaps in this area.

Occupational health and safety policies are essential in healthcare, lack of these policies affects service delivery and outcome of the patients. The findings of the present study showed that dentists had a negative attitude towards OHS policies in general. Finally, the study findings that there was a significant correlation between job title and the pre-employment screening, periodic medical examination, training, work-related conditions, and OHS policies in general,

this may be because job title can increase dentists' job satisfaction and motivates them to perform better also it is a sign of being valued at work and makes dentists work hard to increase their status. Meanwhile, age was found to have no significant correlation with the work-related conditions. In contrast, according to Brasaite et al. (2016),[26] age increases health workers' capacity to evaluate teamwork climate, job satisfaction, perception towards management, and safety climate[26]. Therefore, age boosts experience which helps in the evaluation of the healthcare environment for the improvement of the safety of the patients so work-related conditions affect dentists of all categories regardless of age. Gender and experience also did not have any significant association with the attitude with regards to OHS aspects. However, experience not having any meaningful relationship was contrary to the findings of Alkhudhairy (2016) who clarified that the less experienced dentists used the healthcare tools less frequently, and this affected their attitude towards their duty as well[27].

## Conclusion

The study concluded that dentists had a negative attitude towards OHS policies in general. The OHS aspects that impacted positively on the dentists' attitude were pre-employment screening and training. These aspects would increase safety and a healthy environment for dentists as well as improve the productivity and performance of the dental clinics. Conversely, OHS aspects that impacted negatively on the dentists' attitude were the periodic medical examination, vaccination, and work-related conditions. The study findings show a significant correlation between job title and the pre-employment screening, periodic medical examination, training, work-related conditions, and OHS policies in general. Experience and gender did not have any significant association with the attitude with regards to OHS aspects. It is hence clear that there is a need to implement educational and training programs to enhance the dentists' adherence and compliance to OHS policies. Dentists must, therefore, adhere to safe and healthy work practices they also should make OHS a part of their day-to-day routine and realize the importance of OHS policies in dental practice.

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