

# Prevalence of Musculoskeletal Pain among Iraqi Dentists

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## Abstract

**Introduction:** Prevalence of musculoskeletal disorders (MSD) very high among dentists world wide. Among these MSDs, neck pain & Low back pain are most common. **Objective:** After extensive search on prevalence of MSDs pain among dentists in different countries, we planned a study to examine prevalence among Iraqi dentists. **Methodology:** this study was cross sectional survey study conducted at Medical institute of Baghdad, Al-Falah dental center and Prosthetic and orthodontic dental center. Dentists were selected using simple randomized methods and using certain exclusion and inclusion criteria. **Results:** All participants filled the questionnaire forum . 44.4% were male, 66.6% female. Prevalence of back pain was 18.9% , Neck pain was 13.3%, 2.2% had hand pain, 30% had no pain. **Conclusion:** High prevalence of MSDs in general reach to about 70% and the most affected area were as fellow :Neck& shoulder , back and hand .Male and young age were more prone to different MSDs.

**Keywords:** *Musculoskeletal pain, Prevalence, Iraqi, Dentists*

## Introduction

Job-related musculoskeletal disorders (MSDs) are common disorders among dentists especially neck and low back pain<sup>1</sup>. There are many contributing factors for these disorders among dentists like long working hours, Awkward working postures, use of heavy instrument and limited work area with a limited scope of movement leads to overexertion of cervical spine and lumbar spine<sup>2,3</sup>. Low back pain (LBP) is the most frequent complaint, and nearly all dentists worldwide have experienced this pain at some point during their careers<sup>4</sup>. Prevalence for both low back pain and neck pain were high for both gender with some differences. Female dentists showed a higher frequency of cervical, lumbar, dorsal, and wrist pain<sup>5</sup>. On the other hand, another study reported a higher frequency of back pain among male dentists while female dentists were at higher risk of tendonitis<sup>6</sup>. It is also possible that dental students can experience musculoskeletal problems even during their clinical training period<sup>7</sup>. As the prevention of MSDs could be better than cure, Various preventive measures could be taken such as stretching before work, taking a break in the middle of working hours, avoid awkward postures, and reduce repetitive motion. However, still there are many other factors that causes MSDs [8,9,10,11]. After

extensive search on prevalence of MSDs pain among dentists in different countries, we planned a study to examine the prevalence of MSDs among Iraqi dentists and differences in gender and different age groups.

## Material and Method

This study is a cross sectional design using printed questionnaire forum. We take a sample of 180 dentists, who were selected using simple random sampling method with the provisions of a maximum 60 years old and have been active for at least one year of private practice .Participants were excluded if they had any past history of spinal deformities, spinal malignancies, musculoskeletal & neurological disease that may be vulnerable factor for neck & back pain, trauma to spine. A signed written inform consent was taken from dentist consisting of information about the details of the study. 100 of them were females and 80 were males. The study was conducted on 21 December 2018 and 21 February 2019. The questionnaire used for the study printed in Arabic and consisted of 15 questions about the general information(age, sex ,weight ,height ,smoking) and woks history (subspecialty , presence of assistant ,working hours per day , working years ) and history about MSDs pain(onset ,site) and some questions about preventive measure (knowledge ,take into account or not

while working )and if they were referred to a doctor and if they were taking medication for their symptoms. The dentists were selected from the following places:

1. Medical institute of Baghdad.
2. Al-Falah dental center.
3. Prosthetic and orthodontic dental center.

### Results

44.4% of dentists were male where as 66.6% were females, 70% had pain in hand, neck & shoulder or back. Highest single pain experienced was back pain making 18.9% whereas Neck pain experienced by 13.3%, 2.2% had hand pain, 30% had no pain, as shown in Table-2.

**Table 1: percentage & frequency of participants according to gender.**

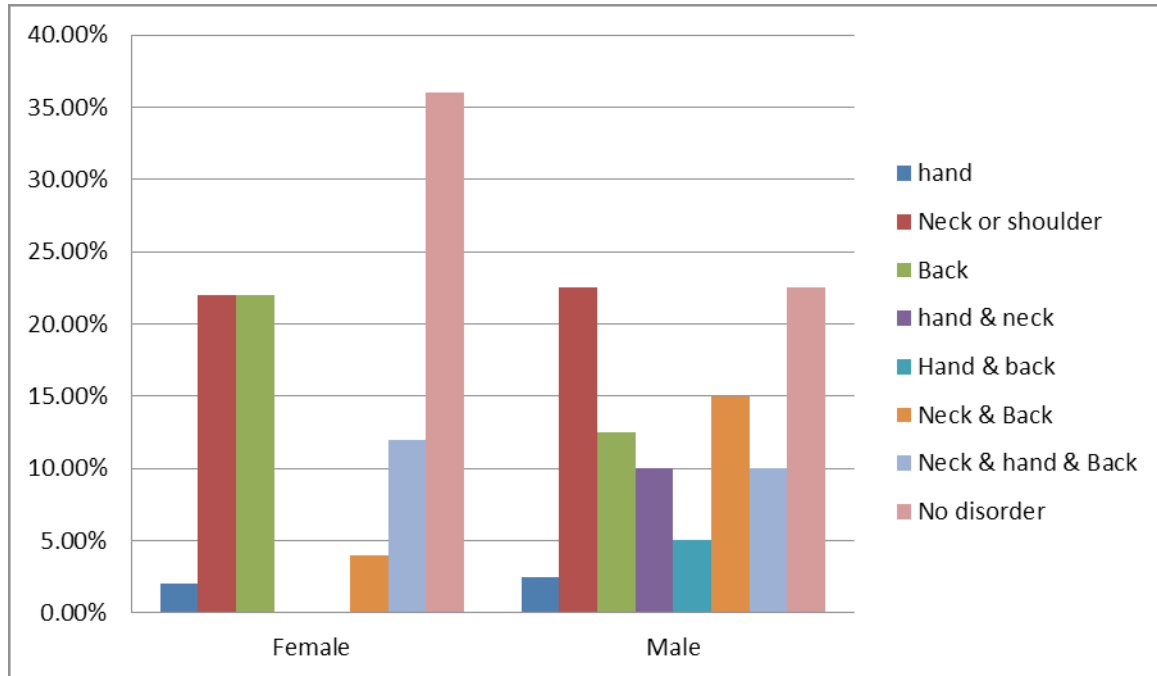
			Han d	Neck & shoulder	Back	Hand& Neck &shoulder	Hand &Back	Back &neck &shoulder	Hand, Neck& Back	No Disorder	Total
age	24-34	Count	4	24	28	6	2	10	20	34	128
		%	5.1%	30.7%	35.8%	7.7%	1.6%	7.8%	15.6%	26.6%	100%
	35-45	count	0	14	0	2	2	0	0	8	26
		%	0%	53.8%	0%	7.7%	7.7%	0%	0%	30.8%	100%
	45-60	count	0	2	6	0	0	6	0	12	28
		%	0%	7.1%	21.4%	0%	0%	21.4%	0%	42.8%	100%
Total	count	4	40	34	8	4	16	20	54	180	
	%	2.2%	22.2%	18.8%	4.4%	2.2%	8.9%	11.1%	30%	100%	

**Table-2: Frequency and percentage of clinical features according to age groups**

			Han d	Neck & shoulder	Back	Hand& Neck &shoulder	Hand &Back	Back &neck &shoulder	Hand, Neck& Back	No Disorder	Total
Male	Count	2	18	10	8	4	12	8	18	80	
	%	2.5%	22.5%	12.5%	10%	5%	15%	10%	22.5%	100%	
Female	Count	2	22	24	0	0	4	12	36	100	
	%	2%	22%	24%	0%	0%	4%	12%	36%	100%	
Total	Count	4	40	34	8	4	16	20	54	180	
	%	2.2%	22.2%	18.8%	4.4%	2.2%	8.9%	11.1%	30%	100%	

% while male 2.5% , Neck &shoulder pain in female was 22% for male 22.5%

**Table-3: Frequency & percentage of Patients with pain in different Regions according to gender.**



**Figure 3: Percentage of Patients with pain in different Regions according to gender.**

**Discussion**

The Purpose of our study was to see the prevalence of back, hand, neck & shoulder pain among Iraqi dentists as single entity and combined. The overall prevalence of MSDs in dentistry differs from 63% to 93 % world-

Wide <sup>12</sup>, In our study ,it was 70% . Prevalence of hand pain was 2.2% and back pain was 18.8% and neck& shoulder pain was (we consider them in our research as a single entity)22.2% alone not combined while other studies showed prevalence of neck pain 30% and back pain was also 30% that may or may not associated with other pain area <sup>13-15</sup>. Male dentists were more likely to have MSDs this is supported by recent research done by Kaur J et al,(2018) but different to older syudy done by Unruh AM <sup>16</sup>. In contrast to other studies ,our study showed higher prevalence of different musculoskeletal pain among the youngest age group (24-34) this may be due to not caring about proper posture, longer working hours and not taking breaks in between <sup>12</sup>.

Proper exercise management can reduce the effects of overused repetitive micro trauma and relaxation of shortened muscles. This holistic technique might be a challenge to dental professionals, but the result benefits

in reducing MSD symptoms.

**Conclusion**

High prevalence of MSDs in general reach to about 70% and the most affected area were as fellow :Neck& shoulder , back and hand .Male and young age were more prone to different MSDs.

**Financial Disclosure:** There is no financial disclosure.

**Conflict of Interest:** None to declare.

**Ethical Clearance:** All experimental protocols were approved under the Technical Medical Institute and all experiments were carried out in accordance with approved guidelines.

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