ADA CE Program ARTICLE 1

COVER STORY

Prevalence of pain in the orofacial regions in patients visiting general dentists in the Northwest Practice-based REsearch Collaborative in Evidence-based DENTistry research network

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ABSTRACT

Background. This study aimed to measure prevalence of pain in the orofacial regions and determine association with demographics, treatment history, and oral health conditions in dental patients visiting clinics in the Northwest Practice-based REsearch Collaborative in Evidence-based DENTistry (PRECEDENT) research network.

Methods. Data were recorded in a survey with systematic random sampling of patients (n = 1,668, 18 to 93 years old, 56% female) visiting 100 general dentists in the Northwest PRECEDENT research network. Prevalence ratios (PR) of orofacial pain by each variable were estimated by generalized estimating equations for Poisson regression.

Results. The prevalence of orofacial pain during the past year was 16.1% (95% confidence interval [CI], 13.4-18.9), of which the most prevalent pain locations were dentoalveolar (9.1%; 95% CI, 7.0-11.2) and musculoligamentous tissues (6.6%; 95% CI, 4.5-8.7). Other locations included soft tissues (0.5%; 95% CI, 0.2-0.8) and nonspecific areas (0.6%; 95% CI, 0.2-1.0). The prevalence of dentoalveolar but not musculoligamentous pain decreased with age. When comparing the 18- to 29-year-old patients, dentoalveolar pain decreased significantly in 45- to 64-year-old patients (PR, 0.59; 95% CI, 0.4-0.9) and in those 65 years or older (PR, 0.5; 95% CI, 0.3-0.9). Sex significantly affected the prevalence of musculoligamentous but not dentoalveolar pain. Women (PR, 3.2; 95% CI, 2.0-5.1) were more likely to have musculoligamentous pain. The prevalence of dentoalveolar and musculoligamentous pain did not vary significantly by ethnicity. Dentoalveolar pain was reported more frequently in patients who did not receive dental maintenance (PR, 2.9; 95% CI, 2.1-4.2) and those visiting community-based public health clinics (PR, 2.2; 95% CI, 1.2-3.7).

Conclusions. One in 6 patients visiting a general dentist had experienced orofacial pain during the past year. Dentoalveolar and musculoligamentous pains were the most prevalent types of pain.

Practical Implications. Pain in the muscles and temporomandibular joints was reported as frequently as that in the teeth and surrounding tissues in patients visiting general dentists. Although the dental curriculum is concentrated on the diagnosis and management of pain and related conditions from teeth and surrounding tissues, it is imperative to include the training for other types of orofacial pain, particularly those from temporomandibular joint and musculoligamentous tissues.

Key Words. Orofacial pain; prevalence; practice-based research network; Northwest PRECEDENT.

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Pain in the orofacial regions affects 21.7% of the population in the United States and costs over $32 billion each year.[1] These pain conditions can be found in the population seeking care from dentists, but the prevalence and distribution of these conditions by sociodemographic and other variables in dental

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TABLE 1

Point and period prevalences of orofacial pain in various populations.

PERIOD, MO	STUDY POPULATION	AGE, Y	STUDY LOCATION	N	OROFACIAL PAIN, %	DENTOALVEOLAR, %	MUSCULOLIGAMENTOUS AND SOFT TISSUES, %	REFERENCE
12	Dental patients	18-93	United States of America	1,668	16	9	7	PRECEDENT
12	Community	≥ 21	United States of America	903	NA*	44†	NA	2
12	Community	6-79	Canada	5,284	12‡	NA	NA	3
12	Community	≥ 65	United States of America	1,636	1	12†	8§	4
12	Community	25-74	Netherlands	975	NA	NA	8	18
12	Community	18-75+	Netherlands	11,648	NA	NA	7	18
6	Community	≥ 18	Hong Kong	1,352	57	28†	14§	5
6	Community	18-65+	United States of America	116,929	22	14†	16¶	6
6	Community	≥ 18	Southeast Iran	1,800	NA	55	NA	7
6	Community	≥ 20	Brazil	3,353	NA	18†	NA	8
6	Community	35-44	Brazil	744	NA	24†	NA	9
6	Community	≥ 45	United States of America	724	43	12†	8§	10
6	Community	≥ 55	Korea	1,032	42	27†	16§	11
5	Community	20-59	Brazil	1,720	NA	14.8†	NA	19
3	Hospital patients	12-70+	Germany	34,242	5	NA	2	12
3	Community	18-75+	United States of America	30,978	NA	NA	5	1
1	Community	≥ 18	Hong Kong	1,222	4	28†	NA	13
1	Community	18-65	United Kingdom	1,510	19	7	7	14
1	Community	18-75	United Kingdom	2,505	12	2	2	15
X#	Community	18-91	Australia	3,954	NA	NA	10	16
X	Community	35-44	Spain	540	32‡	NA	NA	17
X	Community	65-74	Spain	540	36‡	NA	NA	17

* NA: not available.
† Tooth pain or tooth hypersensitivity.
‡ Oral pain.
§ Jaw joint pain.
¶ Jaw joint pain, mouth sore, burning mouth, and dull facial pain.
# X indicates point prevalence.

patients in the United States are unknown. A number of community-based surveys have been conducted over the past decades to measure the prevalence of orofacial pain in various populations (Table 1).[1-19] Because the prevalence of orofacial pain from these studies varied greatly, from 5% to 57% depending on the study period, population, location, and possibly other unidentified factors, the estimation of orofacial pain prevalence in dental patients in the United States cannot be extrapolated from these data.

Supplemental material is available online.

According to these community-based surveys, sociodemographic variables such as age, sex, ethnicity, economic status, and other traits including tobacco usage, parafunctional habits, trauma, tooth wear, tooth decay, malocclusion, missing teeth, clicking, and locking jaws were significantly associated with the prevalence of orofacial pain in dentoalveolar, temporomandibular joint, musculoligamentous, and soft tissues.[1,3,5-7,10-14,16-24] The prevalence of these traits in dental patients might be different from those in the community-based surveys and those who do not visit dentists. Therefore, we hypothesized that the prevalence of orofacial pain in patients seeking care from dentists differs from those in the previous reports of the community-based surveys and that the characteristics of patients, practices, or both contribute to these differences.

The objectives of this study were to measure prevalence of pain in the orofacial regions and determine association with demographics, treatment history, and oral

ABBREVIATION KEY. **NA:** Not available. **PRECEDENT:** Practice-based REsearch Collaborative in Evidence-based DENTistry.