The association between self-report of orofacial pain symptoms with age, gender, interference in activities, and socioeconomic factors surveyed in Indonesian community health centers

Tantry Maulina, DDS, MKes, PhD,[a,b] Cut Novianty Rachmi, MD, MIPH,[c] Rahena Akhter, DDS, PhD,[a,d] Terry Whittle, PhD,[a] R. Wendell Evans, DDS,[e] and Greg M. Murray, DDS, PhD[a]

[a]Jaw Function and Orofacial Pain Research Unit, Faculty of Dentistry, University of Sydney, [b]Oral Surgery and Maxillofacial Department, Faculty of Dentistry, Universitas Padjadjaran, Bandung, Indonesia, [c]Paediatric and Child Health Department, Westmead Children's Hospital, University of Sydney, [d]Faculty of Dentistry, Charles Sturt University, Orange, NSW, Australia, and [e]Community of Oral Health and Epidemiology, Faculty of Dentistry, University of Sydney, Sydney, NSW, Australia

Purpose: The aim of this study was to reveal the prevalence of orofacial pain in community health centers in Bandung, West Java, Indonesia as well as associations with age, gender, interference in physical activity, and socioeconomic status.
Materials and Methods: Seven hundred patients aged at least 18 years from 35 Community Health Centers completed a questionnaire consisting of 4 socio-demographic questions (age, gender, educational attainment, and residential location) and 15 questions about their orofacial pain symptom history. The data were analyzed by using Pearson's chi-square tests; statistical significance accepted at $p<0.05$.
Results: Of the 700 participants, 391 (55.9%) experienced orofacial pain in the previous 6 months. Of the 391 participants, 358 (91.6%) experienced toothache, and 254 (65.0%) complained of interference in daily activities due to orofacial pain. There were significant associations between jaw ache or jaw stiffness when waking up in the morning with education ($p=0.001$) and residential area ($p=0.021$) as well as between night clenching or grinding with age ($p=0.007$) and gender ($p<0.001$).
Conclusion: The data indicated a high prevalence of orofacial pain in this particular Indonesian population and can be used as baseline information for improving the management of orofacial pain.
(Asian Pac J Dent 2014; 14: 23-34.)
Key Words: age, gender, orofacial pain, socioeconomic

Introduction

There is little information on the prevalence and impact of orofacial pain in Indonesia. Orofacial pain can be the presenting symptom in a broad spectrum of diseases including disease of the orofacial structures, generalized musculoskeletal or rheumatic disease, peripheral or central nervous system disease, psychological dysfunction, or the pain may be referred from other sources.[1,2]

Orofacial pain can have a significant impact on daily activities, social and recreational activities, and work activities.[3-5] The significant impact of orofacial pain on physical activities is reflected in the psychological distress levels and quality of life of the sufferers.[6,7] For example, orofacial pain can interfere with basic orofacial functions such as chewing, speaking, tooth brushing, and sleep disturbance, whilst secondary effects may include detrimental dietary changes, social isolation and dental neglect with ensuing pathology,[8] and patients with chronic orofacial pain can exhibit significantly high levels of depression.[9]

A number of factors have been implicated as playing a key role in the prevalence of orofacial pain such as age, gender and socioeconomic factors. In relation to age and gender, several studies have revealed a correlation between age or gender and orofacial pain or pain in general.[10-14] In these studies, it was revealed that, compared to males, females are more likely to have symptoms of orofacial pain, and that some orofacial pain symptoms are most likely to decrease with an increase of age.

Socioeconomic factors also appear to play a significant role in the prevalence of orofacial pain with studies

demonstrating associations between orofacial pain prevalence and educational attainment[15-21] as well as residential location.[21,22] For example, a Korean study of orofacial pain showed that lower educational attainment (primary and middle school) related to higher percentage of reported face pain, toothache, oral sores and burning mouth, and in this study, individuals reported joint pain most frequently.[17] Another study in Brazil found that toothache was more likely to be reported by those with lower educational attainment when classified according to years of schooling (i.e. 0-4, 5-8, 9-11, and >12 years).[18]

Despite its detrimental health and societal impacts, the prevalence and impact of orofacial pain have not been investigated in Indonesia. Such information would be of value to scientists, health-policy makers, and clinicians as it would establish the burden and natural history of orofacial pain as well as providing valuable information for future studies of risk factors, evaluation of management strategies, and public policy on preventive measures. Given the absence of data on the prevalence of orofacial pain in Indonesia, the aims of the present study were to provide preliminary data on the prevalence of orofacial pain in community health centers in Indonesia as well as associations with age, gender, interference in physical activities, and socioeconomic status.

Materials and Methods

Seven hundred participants aged 18 years and older (177 male, 523 female) who were patients at 35 Indonesian Community Health Centers, in Bandung, Indonesia, were recruited and agreed to participate in this study during 2 consecutive years, with 350 participants in year 1, and 350 participants in year 2. A sample size calculation using a margin of error of 0.05, confidence level of 95%, response distribution of 50%, and a population of 2,455,517 people, recommended a minimum sample of 385. Ethical approval was gained from the Faculty of Medicine University of Padjadjaran Ethics Committee (ID Number: 210/ FKUP-RSHS/ KEPK/ Kep/ EC/ 2010) prior to the start of the study.

Table 1. Frequency of participants for each socio-demographic category

	Categories and number of participants											
Age	18-29 yo		30-39 yo		40-49 yo		50-59 yo		60-69 yo		>=70 yo	
	221		185		143		82		47		22	
Gender*	M	F	M	F	M	F	M	F	M	F	M	F
	75	146	32	153	28	115	19	63	13	34	10	12
Educational attainment	Primary school		Junior high school		Senior high school		College/University					
	205		190		236		69					
Residential area	East Bandung		West Bandung		Central Bandung		North Bandung		South Bandung			
	140		140		140		140		140			

*Gender: Male; M 177, Female; F 523

Participants were patients who were sitting in patient waiting rooms and were recruited based on their availability at the time and willingness to participate. Prior to the interview, each participant signed an informed consent. Each participant was then interviewed based on a questionnaire that consisted of 19 multiple choice questions about their socio-demographic status (4 questions) as well as history of orofacial pain symptoms (15 questions) in the last 6 months (Appendix 1). The socio-demographic questions recorded age, gender, residential location, and highest educational attainment that comprised of primary school level, junior

high school level, senior high school level, and university/college level (Table 1).

The questions (Appendix 1) on symptoms of orofacial pain were about the types of orofacial pain experienced which included toothache, ear pain, jaw pain, mastication pain, and burning pain. Questions were asked about the frequency and the intensity of the pain, the duration of the pain, and a description of the nature of the pain. Effects of the pain on disability were gleaned by questions about the interference of the pain on some daily activities, the interference level on daily activities, the interference level on recreational, social, and family activities, and the interference level on their ability to work. Other questions about the pain included the presence of joint pain or swelling in other parts of the body, the possibility and frequency of the subject seeking any treatment related to the orofacial pain experienced, and whether there have been any other temporomandibular disorder (TMD) symptoms experienced by the subject. As the original version of the questionnaire was in English, prior to the start of the survey, the questionnaire was translated by TM to Bahasa Indonesia, which is the official languange of Indonesia. The questionnaire was then back-translated by TM to English at the end of the survey. This translation was verified by an Indonesian medical doctor who is a graduate from the University of Sydney's Master of International Public Health program that has been involved in several community research programs as well. There is a difference of 8 words in the back-translated version compared to the original version (Table 2).

Table 2. The word differences between the 1st original English version and the back translation version of the questionnaire (Appendix 1)

Question number	1st English version	Back translation version
7. b-c	lasting	7. b stayed from 7. c stayed
8. b-c	occured	happened
9.	presently	at the moment
12. a	chewing	mastication
14.	take part	participate
17.	physician	general practitioner
19. d	shortly	immediately
19. g	unusual	uncommon

The questions were read to the participants and one interviewer (TM) recorded their answers and completed the questionnaire. There were no significant differences between age and gender between the 1st and 2nd year of data collection (independent t-tests p=0.179, Mann-Whitney tests p=0.664, respectively) thus the data from both years were combined. All acquired data were analyzed by calculating frequencies of the prevalence of orofacial pain symptoms, the level of interference in daily activities, work activities, and social activities, the severity of the pain, the prevalence of TMD-related symptoms, and the level of interference of orofacial pain symptoms on several physical activities such as chewing, eating hard food, and night sleeping. Pearson's chi-Square tested for significant associations between orofacial pain symptoms and/or TMD-related symptoms with age, gender, educational attainment, residential area, level of interference on daily activities, work activities, and social and recreational activities.

In addition, Pearson's chi-square tested significant associations between pain intensity and/or pain frequency in the last 6 months with level of interference on daily activities, work activities, social and recreational activities, and the ability to perform physical activities. The strength of the associations found were based on the Cramer's V value for gender and residential area as these are nominal variables, and the

Gamma value for age and educational attainment, as these variables are ordinal variables.

Results

Table 1 summarizes data on age, gender, educational attainment, and residential area of the 700 participants. Of the 700 participants, 391 (55.9%) experienced some form of orofacial pain within the past 6 months. The 2 most common orofacial pain symptoms experienced were toothache (n=358, 51.1%; Table 3) and ear pain (74, 10.6%).

Table 3. The distribution of participants who experienced orofacial pain in the last six months

Symptoms	Positive	Percentage (+)
Toothache	358	51.10%
Ear pain	74	10.60%
Burning sensation	37	5.30%
Shooting pain	34	4.90%
Jaw pain	29	4.10%
Pain on opening the mouth	14	2.00%
Temple pain	14	2.00%
Eye pain	12	1.70%
Pain on mastication	9	1.30%
Muscle tenderness	1	0.10%

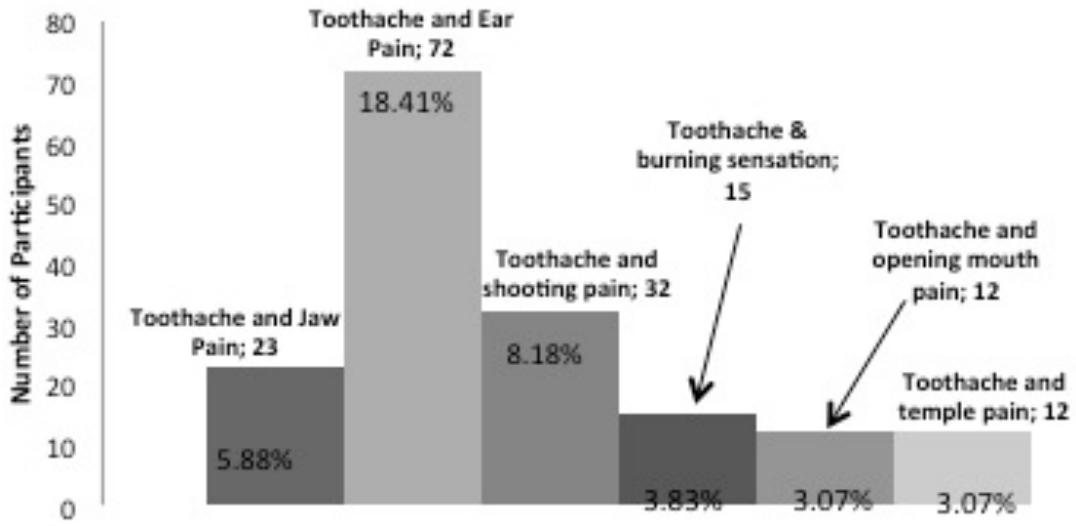

Fig. 1 Number of participants who experienced multiple orofacial pain symptoms

Orofacial pain symptoms were also experienced as multiple symptoms with the most common pair of symptoms being toothache and ear pain (72, 18.4%) (Fig. 1). Of the 391 participants experiencing orofacial pain experienced in the last 6 months, there were complaints that the pain interfered with daily physical activities (Fig. 2). The most common activities were difficulty in chewing (293, 74%), eating hard food (254, 65%), and nightsleeping (243, 62.1%). The frequencies of TMD-related symptoms are listed in Table 4, and the most common were clicking or popping during jaw opening and closing or chewing (265, 37.9%), jaw pain during or shortly after chewing (236, 33.7%), and discomfort during occlusion (202, 28.9%).

Orofacial pain duration and frequency are summarized in Table 5. Of the 391 participants, more than half

(215, 55%) experienced orofacial pain for less than 6 months whilst 105 (26.8%) experienced it for more than 2 years. For pain frequency, 181 (46.3%) commented that the pain was "coming and going, lasting seconds to minutes", whilst 107 (27.4%) participants answered that the pain was "coming and going, lasting more than an hour" (Table 5).

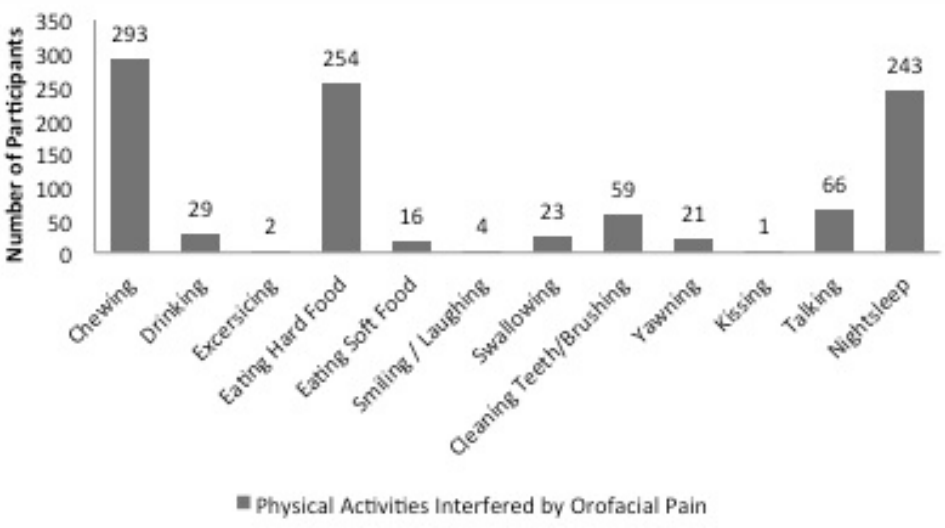

Fig. 2 Number of participants whom physical activities were interfered by orofacial pain.

Table 4. TMD-related symptoms experienced by participants in the last six months

Symptoms	Number of participants	Percentage
Clicking or popping during jaw-opening or closing or chewing	265	37.90%
Jaw pain during or shortly after eating	236	33.70%
The way the teeth come together is uncomfortable	202	28.90%
Grating or grinding noise during jaw-opening and closing or chewing	183	26.10%
Jaw ache or jaw stiffness in the morning after waking	154	22%
Night clenching or grinding	83	11.90%
Opening jaw is difficult enough to interfere with ability to eat	58	8.30%
Daytime clenching or grinding	22	3.10%

Table 5. Orofacial pain duration and frequency experienced by participants

	Items	Number of participants	Percentage
Pain duration	0-6 months	215	55%
	6 months - 1 year	62	15.90%
	1-2 years	9	2.30%
	More than 2 years	105	26.80%
Pain frequency	Only occured once	49	12.50%
	Coming and going, lasting seconds to minutes	181	46.30%
	Coming and going, lasting hours or more	107	27.40%
	Present all the time that you are awake	54	13.80%

Figure 3 summarizes the description of the orofacial pain experienced in the last 6 months. Of the 391 participants, 356 (91.1%) described the pain as "pain in one or more of the teeth", and 118 (30.2%) endorsed "pain in the jaw joint, in front of the ear or inside the ear (other than infection in the ear)". For the severity of

the pain experienced during the last 6 months, 159 (40.7%) participants answered that the pain was severe, 124 (31.7%) answered that the pain was moderate, whilst 108 (27.6%) participants anwered that the pain was mild. For the severity of their pain when the pain was at its worst, of the 391 patients, 160 (40.9%) participants answered that the pain was severe, 127 (32.5%) participants answered that the pain was moderate, whilst 104 (14.9%) participants answered that it was mild pain. Significant associations between TMD-related symptoms experienced in the past 6 months with age and/or gender are summarized in Table 6.

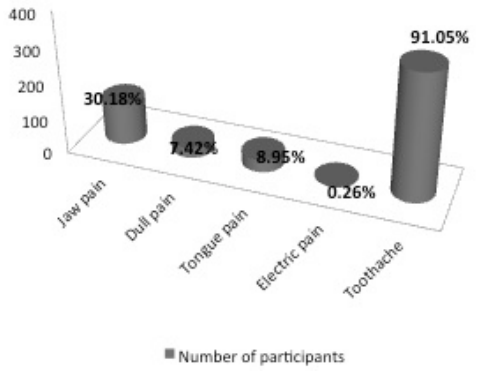

Fig. 3

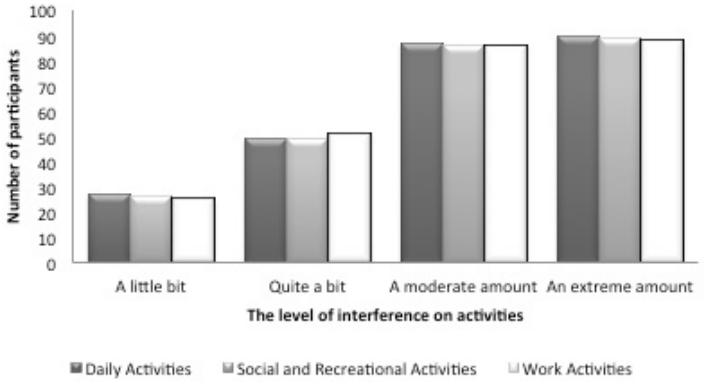

Fig. 4

Fig. 3 Chart showing frequencies of the description of the orofacial pain symptoms experienced by the participants. The descriptions endorsed were "pain in the jaw joint, in front of the ear or inside the ear (other than infection in the ear)" (Jaw pain), "a dull, aching pain across the face or cheek that has occurred more than once" (Dull pain), "a prolonged, unexplained pricking or burning sensation in the tongue or any other part of the mouth that has occurred more than once" (Tongue pain), "a burst of electric shock-like pain in the face" (Electric pain), and "pain in one or more of the teeth" (Toothache).

Fig. 4 Number of participants with orofacial pain symptoms who experienced interference of daily activities, social and recreational activities, and work activities. For daily activities, social and recreational activities, and work activities, n=253, 250, 250, respectively because 1 participant scored "do not know".

Table 6. Correlations between TMD-related symptoms and gender and age

Dependent variable	p-value*	Direction of associations	n	Independent variable
Clicking or popping during jaw-opening or closing or chewing	0.72	Positive	700	Gender
	0.31	Negative	700	Age
Grating or grinding noise during jaw-opening and closing or chewing	0.65	Positive	700	Gender
	0.1	Negative	700	Age
Jaw ache or jaw stiffness in the morning after waking	0.82	Positive	700	Gender
	0.04*	Negative	700	Age
Jaw pain during or shortly after eating	0.95	Positive	700	Gender
	0.04*	Negative	700	Age
Night clenching or grinding	0.000*	Positive	700	Gender
	0.007*	Negative	700	Age
Daytime clenching or grinding	0.78	Positive	700	Gender
	0.5	Negative	700	Age
The way the teeth come together is uncomfortable	0.7	Positive	700	Gender
	0.012*	Negative	700	Age
Opening jaw is difficult enough to interfere with ability to eat	0.67	Positive	700	Gender
	0.092	Negative	700	Age

Negative direction of association means there is an inverse relation between the occurrence of the symptom and age. *p<0.05

For gender, females were significantly more likely to have pain just in front of the ear(s) compared to males (p=0.029) and to clench or grind at night (p<0.001). For age, the youngest group was more likely to feel that

the way the teeth come together is uncomfortable, to have jaw pain during or shortly after eating, to have jaw ache or jaw stiffness in the morning after waking, and to exhibit night clenching or grinding.

Table 7. Significant correlations found between orofacial pain symptoms and TMD-related symptoms with residential area

Symptom	p-value*	Location more likely to have symptom
Jaw ache or jaw stiffness in the morning after waking	0.021*	West Bandung
Pain in the jaw joint	0.000*	East Bandung
Pain in or around the eyes	0.03*	East Bandung
Prolonged burning sensation in the tongue or other parts of the mouth	0.000*	West Bandung
Clicking or popping during jaw-opening or closing or chewing	0.031*	East Bandung
Grating or grinding noise during jaw-opening and closing or chewing	0.031*	East Bandung
Jaw pain during or shortly after eating	0.038*	West Bandung
Opening jaw is difficult enough to interfere with ability to eat	0.004*	West Bandung

*p<0.05

Pearson's chi-square tested associations between the ability to perform physical activity, and pain intensity for the last six months as well as pain intensity when it was at its worst. There were significant correlations between pain intensity during the last six months and chewing ability ($p<0.001$, positive correlation), drinking ($p=0.002$, negative correlation), eating hard foods ($p<0.001$, positive correlation), eating soft foods ($p=0.014$, positive correlation), cleaning teeth ($p=0.006$, negative correlation), talking ($p<0.001$, positive correlation), and night sleeping ($p<0.001$, positive correlation). There were also significant correlations between pain intensity when it was at its worst and chewing ability ($p<0.001$, positive correlation), drinking ($p=0.001$, negative correlation), eating hard foods ($p<0.001$, positive correlation), eating soft foods (0.016, positive correlation), cleaning teeth ($p=0.009$, positive correlation), talking ($p<0.001$, positive correlation), and night sleeping ($p<0.001$, positive correlation).

There was a significant association between education and jaw ache or jaw stiffness in the morning after waking ($p=0.001$, $n=700$). There were no significant associations found between educational attainment and the other orofacial pain symptoms listed in Q19. A Pearson's chi-square test revealed that there were significant associations found between residential area and orofacial pain symptoms as well as TMD-related symptoms and these are summarized in Table 7.

Figure 4 shows the frequencies of interference in daily activities, social and recreational activities, and work activities. Of the 391 participants experiencing orofacial pain within the last six months, 254 (65.0%) complained of interference in daily activities due to orofacial pain, 251 (64.19%) complained of interference in being involved in social and recreational activities, and 251 (64.19%) complained of interference in work activities.

The interference level of daily activities were significantly associated with pain frequency ($p<0.001$) and pain intensity during the last six months ($p<0.001$) as well as pain intensity when pain was at its worst ($p<0.001$). The interference level of social and recreational activities as well as work activities were significantly associated with pain frequency ($p<0.001$) and pain intensity during the last six months ($p<0.001$) as well as pain intensity when pain was at its worst ($p<0.001$).

Discussion

The main findings of the present study were that 55.9% of patients in Indonesian Community Health

Centers experienced orofacial pain in the previous 6 months. Of those reporting pain, most experienced toothache, difficulty in chewing, and/or difficulty in eating hard food. Because of the orofacial pain, participants complained of interference in daily activities, interference in being involved in social and recreational activities, and of interference in work activities. There were significant associations between the self-reported symptoms of jaw ache or jaw stiffness when waking up in the morning and the participant's age, education, and residential area. Significant associations were also found between self-reported symptoms of night tooth clenching or grinding and age and gender.

Previous studies of the epidemiology of orofacial pain have shown variability from country to country. A national study in the United States found that 12.2% of adults had experienced toothache in the preceding 6 months,[23] whilst a national study in Brazil showed that toothache prevalences in the past six months was 35.7% (age 15-19 years old), 34.8% (age 35-44 years old), and 22% in 65-74 years old elderly.[18] Another study in Sydney, Australia, reported a 29.5% prevalence of chronic orofacial pain,[24] whilst a national study by Kohlmann in Germany (of 12 months duration) reported a 16% prevalence of orofacial pain, whereas an international study reported that orofacial pain occurred in 10% of adults.[25] Based on these previous studies, the results of the current study suggest that there is a higher percentage of orofacial pain (55.9%) experienced by Indonesian people.

As with other health issues, orofacial pain can be related to socioeconomic status where educational attainment is one of the indicators.[16] In the current study, there was a significant association found between education and jaw stiffness ($p<0.001$). This finding is in agreement with a study by Kuhnen and colleagues[26] that suggested, the lower the age, and the lower the family income and years of schooling, the higher the prevalence of orofacial pain. Another study supported the findings of the current study by showing that less education was a significant risk factor for toothache.[21] The result of another study also suggested that persons with lower educational attainment showed a higher percentage of face pain, toothache, oral sores, and burning mouth.[17]

Several significant correlations were also found between residential area and orofacial pain, and this finding is consistent with some earlier investigations.[21,22,27] A significant correlation between residential area and chronic musculoskeletal pain has also been demonstrated.[28] In a population-based cross-sectional study of 2504 responders, people who lived in the most deprived areas (extreme poverty level) have increased likelihood (odds ratio=1.50) to report orofacial pain.[22] Another study of the severity of musculoskeletal pain and its relations to socioeconomic inequality in two populations in Oslo, Norway, revealed that non-inflammatory musculoskeletal pain was more severe and physical disabilities were greater in a population living in a less affluent compared with a more affluent residential area.[28]

Despite the significant correlations found for the symptoms of orofacial pain and TMD symptoms experienced in the last 6 months with residential area, there were also some symptoms investigated in the present study that were not significantly related to residential area. These results are consistent with previous studies[21,29,30] where the area of living was not significantly related to the symptoms of orofacial pain. The fact that there were several orofacial pain symptoms without significant associations with demographic factors or socioeconomics indicators might be due to the fact that Community Health Centers provide dental treatment services at a very low cost in every suburb and therefore available to most of the population.

Another significant finding was the association between age and gender with orofacial pain and

TMD-related symptoms experienced in the last 6 months. These significant associations have also been demonstrated by Macfarlane et al.[31] and Gonçalves et al.[32]

Another essential findings of the study was the level with which orofacial pain symptoms experienced in the last 6 months interferes with daily activities, work activities, as well as social and recreational activities. These findings are in line with previous studies which illustrated that pain is the most frequent cause of health care utilization, the most common cause of productivity loss, and is significantly associated with a poor quality of life.[20]

Some of the findings of the present study are consistent with the findings of previous studies[17,21,26] such as the interference in daily activities, as well as the correlation between the symptoms of orofacial pain with educational attainment. Despite the similarities found between the present study and previous studies, the prevalence of orofacial pain tended to be much higher. The variation in orofacial pain prevalence found between countries likely reflects the differences in healthcare systems and facilities between countries, as well as education in regards to dental awareness and knowledge. Therefore, it is important to note that the management of orofacial pain should include related aspects, including socioeconomic systems.

The present study was not a randomised population survey and therefore, the generalisation of the results to the whole population is limited. Performing a physical examination during the interview would also have increased the accuracy for TMD-related symptoms response.

The data suggest a higher prevalence of some types of orofacial pain experienced in the last 6 months in a sample of patients attending Community Health Centers in Bandung, Indonesia, than in other countries and that educational attainment, age, and gender might be related to the prevalence of some types of orofacial pain. The higher prevalence of orofacial pain found in the current study may reflect at least in part the fact that the study population comprised of general patients who were attending community health center clinics for medical treatment. Further research in this area with a more stratified population is needed.

Acknowledgment

The authors would like to thank the staff of Bandung District Health Department, Bandung, Jawa Barat, Indonesia for their kind assistance during field research permission process.

Conflict of Interest and Sources of Funding Statement

All authors hereby stated that there is no conflict of interest in this study. The current study is funded by Australian Agency for International Development (AusAID) through the Australian Leadership Awards (ALA) and Allison Sudrajat Awards (ASA) schemes.

References

1. Blasberg B, Greenberg MS. Orofacial Pain. Burket's Oral Medicine. 10th ed. Hamilton: BC Decker Inc.; 2003. p. 307-40.
2. McNeill C, Dubner R, Woda A. What is Pain and How Do We Classify Orofacial Pain. In: Sessle BJ, Lavigne GJ, Lund JP, Dubner R, editors. Orofacial Pain: From Basic Science to Clinical Management. 2nd ed. Chicago: Quintessence Publishing Co, Inc; 2008. p. 3-11.
3. Locker D, Miller Y. Subjectively reported oral health status in an adult population. Community Dent Oral Epidemiol 1994; 22: 425-30.
4. Macfarlane TV, Blinkhorn AS, Davies RM, Kincey J, Worthington HV. Oro-facial pain in the community: prevalence and associated impact. Community Dent Oral Epidemiol 2002; 30: 52-60.
5. American Chronic Pain Association (ACPA). ACPA Resource Guide To Chronic Pain Medication & Treatment, Rocklin: American Chronic Pain Association, Inc.; 2012.
6. Luo Y, McMillan AS, Wong MC, Zheng C, Lam CL. Orofacial pain conditions and impact on quality of life in community-dwelling elderly people in Hong Kong. J Orofac Pain 2007; 21: 63-71.
7. Wan KY, McMillan AS, Wong MC. Orofacial pain symptoms and associated disability and psychosocial impact in community-dwelling and institutionalized elderly in Hongkong. Community Dent Health 2012; 29: 110-6.
8. Sharav Y, Benoliel R. The diagnostic process. In: Sharav Y, Benoliel R, editors. Orofacial Pain and Headache. Edinburgh: Mosby Elsevier; 2008. p. 1-17.
9. Tesch RS, Denardin OVP, Baptista CA, Dias FL. Depression levels in chronic orofacial pain patients: a pilot study. J Oral Rehabil 2004; 31: 926-32.

10. Riley JL 3rd, Gilbert GH, Heft MW. Orofacial pain symptom prevalence: selective sex differences in the elderly. Pain 1998; 76: 97-104.
11. Dao TTT, LeResche L. Gender differences in pain. J Orofac Pain 2000; 14: 169-84.
12. Riley JL 3rd, Gilbert GH. Orofacial pain symptoms: an interaction between age and sex. Pain 2001; 90: 245-56.
13. Sanders AE, Slade GD. Gender modifies effect of perceived stress on orofacial pain symptoms: National survey of adult oral health. J Orofac Pain 2011; 25: 317-26.
14. Bagis B, Ayaz EA, Turgut S, Durkan R, Ozcan M. Gender difference in prevalence of signs and symptoms of temporomandibular joint disorders: a restropective study on 243 consecutive patients. Int J Med Sci 2012; 9: 539-44.
15. Adler NE, Boyce T, Chesney MA, Cohen S, Folkman S, Kahn RL, et al. Socioeconomic status and health: The challenge of the gradient. Am Psychol 1994; 49: 15-24.
16. Vargas CM, Macek MD, Marcus SE. Sociodemographic correlates of tooth pain among adults: United States, 1989. Pain 2000; 85: 87-92.
17. Riley JL 3rd, Gilbert GH, Heft MW. Socioeconomic and demographic disparities in symptoms of orofacial pain. J Public Health Dent 2003; 63: 166-73.
18. Chung JW, Kim JH, Kim HD. Chronic orofacial pain among Korean elders: prevalence, and impact using the graded chronic pain scale. Pain 2004; 112: 164-70.
19. Bastos JLD, Nomura LH, Peres MA. Dental pain, socioeconomic status, and dental caries in young male adults from southern brazil. Cad Saude Publica 2005; 21: 1416-23.
20. Bastos JLD, Gigante DP, Peres KG. Toothache prevalence and associated factors: a population based study in southern Brazil. Oral Dis 2008; 14: 320-6.
21. Dorner TE, Muckenhuber J, Stronegger WJ, Rasky E, Burkhard G, Freidl W. The impact of socio-economic status on pain and the perception of disability due to pain. Eur J Pain 2011; 15: 103-9.
22. Anggarwai VR, Macfarlane TV, Macfarlane GJ. Why is pain more common amongst people living in areas of low socio-economic status? A population-based cross-sectional study. Brit Dent J 2003; 194: 383-7.
23. LeResche L, Drangsholt M. Epidemiology of Orofacial Pain: Prevalence, Incidence, and Risk Factors. In: Sessle BJ, Lavigne GJ, Lund JP, Dubner R, eds. Orofacial Pain: From Basic Science to Clinical Management. 2nd ed. Chicago: Quintessence Book; 2008. p. 13-8.
24. Vashistha A. An epidemiological survey of orofacial pain. Australia: University of Sydney; 2007.
25. Kohlmann T. Epidemiology of orofacial pain. Schmerz 2002; 16: 339-45.
26. Kuhnen M, Peres AM, Masiero AV, Peres KG. Toothache and associated factors in Brazilian adults: a cross-sectional population-based study. BMC Oral Health 2009; 9(7). doi: 10.1186/1472-6831-9-7
27. Jamieson LM, Mejia GC, Slade GD, Roberts-Thomson KF. Predictors of untreated dental decay among 15-34-year-old Australians. Community Dent Oral Epidemiol 2009; 37: 27-34.
28. Brekke M, Hjortdahl P, Kvien TK. Severity of musculoskeletal pain: relations to socioeconomic inequality. Soc Sci Med 2002; 54: 221-8.
29. Locker D, Leake JL, Hamilton Mea. The oral health status of older adults in four Ontario communities. J Can Dent Assoc 1991; 57: 727-32.
30. Tickle M, Craven R, Worthington HV. A comparison of the subjective oral health status of older adults from deprived and affluent communities. Community Dent Oral Epidemiol 1997; 25: 217-22.
31. Macfarlane TV, Glenny A-M, Worthington HV. Systematic review of population-based epidemiological studies of orofacial pain. J Dent 2001; 29: 451-67.
32. Gonçalves DA, Dal Fabbro AL, Campos JA, Bigal ME, Speciali JG. Symptoms of temporomandibular disorders in the population: an epidemiological study. J Orofac Pain. 2010; 24: 270-8.

Appendices

QUESTIONNAIRE

1. Your gender is :
   a. Male b. Female
2. What age group do you belong to:
   a. 18-29 yo b. 30-39 yo c. 40-49 yo d. 50-59 yo e. 60-69 yo f. More than 70 yo
3. Where do you live:
   a. West Bandung b. East Bandung c. North Bandung d. South Bandung e. Central Bandung
4. Highest educational attainment:
   a. Primary School b. Junior High c. Senior High d. University
5. Have you had the following symptoms during the past 6 months?
   O Toothache
   O Pain in the jaw joint/s
   O Pain in area just in front of the ear/s
   O Pain in or around the eyes
   O Pain when opening the mouth wide
   O Shooting pains in the face or cheeks
   O Pain in the jaw joint when chewing food
   O Pain in and around the temples
   O Tenderness of muscles at the side of the face
   O A prolonged burning sensation in the tongue or other parts of the mouth

IF NO, GO TO QUESTION 19

6. How long have you had this pain?
   a. 0-6 months b. 6 months - 1 year c. 1-2 years d. More than 2 years
7. Which one of these four options best describes your pain:

a. present all the time you are awake
b. coming and going, lasting seconds to minutes
c. coming and going, lasting more than an hour
d. occurring once only

8. I am going to read out several ways to describe pain. Could you tell me with a yes or no, if they describe what your pain feels like.
   a. pain in the jaw joint, in front of the ear or inside the ear (other than infection in the ear)
   b. a dull, aching pain across your face or cheek that has occurred more than once
   c. a prolonged, unexplained pricking or burning sensation in your tongue or any other part of your mouth that has occurred more than once
   d. a burst of electric shock-like pain in your face
   e. pain in one or more of your teeth
9. How intense is your pain right now?
   - o No pain presently
   - o Mild pain
   - o Moderate pain
   - o Severe pain
10. How intense has your pain been in the past six months?
   - o Mild pain
   - o Moderate pain
   - o Severe pain
11. How intense was your pain when your pain was at its worst?
   - o Mild pain
   - o Moderate pain
   - o Severe pain
12. From these list of activities, can you tell me with a "yes" or "no" if your pain prevents or limits you from doing any of these?

a. Chewing
b. Drinking
c. Exercising
d. Eating hard foods
e. Eating soft foods
f. Smiling/laughing
g. Swallowing
h. Cleaning teeth or face
i. Yawning
j. Kissing
k. Talking
l. Having a good night's sleep

13. In the past six months, has your pain interfered with your daily activities?
   - o Yes
   - o No

   If yes, is it:
   - o A little bit
   - o Quite a bit
   - o A moderate amount
   - o An extreme amount
   - o Do not know

14. In the past six months, how much has your pain interfered with your ability to take part in recreational, social and family activities?
   - o Yes
   - o No

   If yes, is it:
   - o A little bit
   - o Quite a bit
   - o A moderate amount
   - o An extreme amount
   - o Do not know

15. In the past six months, how much has your pain interfered with your ability to work (including housework)?
   - o Yes
   - o No

   If yes, is it:
   - o A little bit
   - o Quite a bit
   - o A moderate amount
   - o An extreme amount
   - o Do not know

16. Do you have or have you had in the past any swollen or painful joints in parts of your body other than your jaw? IF YES, is this a persistent problem that you have had for at least 6 months?
17. Have you ever been to a physician, a dentist or other health professional for facial ache, pain or discomfort? IF YES, was this more than 6 months ago?
18. On average how many health care visits have you ever made for your face pain?
19. In the last 6 months can you tell me with a yes or no if
    a. your jaw clicks or pops when you open or close your mouth or when chewing?
    b. if your jaw make a grating or grinding noise when it opens and closes or when you chew?
    c. if your jaw aches or feels stiff when you wake up in the morning?
    d. if your jaw hurts when you chew or shortly after eating?
    e. if you have been told, or do you know that you grind your teeth or clench your jaw while sleeping at nights?
    f. if during the day you grind your teeth or clench your jaw?
    g. if the way your teeth come together feels uncomfortable or unusual?
    h. if opening your jaw is difficult enough to interfere with your ability to eat?

Questionnaire. Although the questions are shown here in English, they were asked in Bahasa Indonesia (the official language of Indonesia).

Correspondence to:
Dr. Tantry Maulina
Oral Surgery and Maxillofacial Department, Faculty of Dentistry, Universitas Padjadjaran
Jl. Sekeloa Selatan no. 1, Bandung 40132, Indonesia
Fax: +62-22-2533043 Email: tantry.maulina@fkg.unpad.ac.id

Accepted October 26, 2014.
 Online ISSN 2185-3487, Print ISSN 2185-3479