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

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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.

(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,6 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\textsuperscript{15-21} as well as residential location.\textsuperscript{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.\textsuperscript{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).\textsuperscript{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 Padjadajaran 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**

<table>
<thead>
<tr>
<th>Categories and number of participants</th>
<th>Age</th>
<th>Gender*</th>
<th>Educational attainment</th>
<th>Residential area</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>18-29 yo</td>
<td>M</td>
<td>F</td>
<td>Primary school</td>
</tr>
<tr>
<td></td>
<td>30-39 yo</td>
<td>M</td>
<td>F</td>
<td>Junior high school</td>
</tr>
<tr>
<td></td>
<td>40-49 yo</td>
<td>M</td>
<td>F</td>
<td>Senior high school</td>
</tr>
<tr>
<td></td>
<td>50-59 yo</td>
<td>M</td>
<td>F</td>
<td>College/University</td>
</tr>
<tr>
<td></td>
<td>60-69 yo</td>
<td>M</td>
<td>F</td>
<td></td>
</tr>
<tr>
<td></td>
<td>&gt;=70 yo</td>
<td>M</td>
<td>F</td>
<td></td>
</tr>
</tbody>
</table>

*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 language 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).

<table>
<thead>
<tr>
<th>Question number</th>
<th>1st English version</th>
<th>Back translation version</th>
</tr>
</thead>
<tbody>
<tr>
<td>7. b-c</td>
<td>lasting</td>
<td>7. b stayed from</td>
</tr>
<tr>
<td>8. b-c</td>
<td>occurred</td>
<td>7. c stayed</td>
</tr>
<tr>
<td>9.</td>
<td>presently</td>
<td>happened</td>
</tr>
<tr>
<td>12. a</td>
<td>chewing</td>
<td>mastication</td>
</tr>
<tr>
<td>14.</td>
<td>take part</td>
<td>participate</td>
</tr>
<tr>
<td>17.</td>
<td>physician</td>
<td>general practitioner</td>
</tr>
<tr>
<td>19. d</td>
<td>shortly</td>
<td>immediately</td>
</tr>
<tr>
<td>19. g</td>
<td>unusual</td>
<td>uncommon</td>
</tr>
</tbody>
</table>

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

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

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).

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 answered 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](image1)

**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](image2)

**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**

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

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

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

*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, 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. Another study in Sydney, Australia, reported a 29.5% prevalence of chronic orofacial pain, 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. 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. 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 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. 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.

Several significant correlations were also found between residential area and orofacial pain, and this finding is consistent with some earlier investigations. A significant correlation between residential area and chronic musculoskeletal pain has also been demonstrated. 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. 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.

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 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 socioeconomic 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 studies17,21,26 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.

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References

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:
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).