

## ORIGINAL ARTICLE

### Knowledge of dental pain emergency in 45-59 years old community in cimahi with Clickdent application

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#### ABSTRACT

Dental pain is an unpleasant sensory and emotional experience due to tissue damage, and it is usually felt only in the form of a sensation and described as being different from other sensations. Clickdent is a dental application that can help users manage their dental health by providing information associated with dental health, tracking dental appointments and reminders, and connecting users with dental professionals. This study aimed to characterize the level of knowledge of dental pain emergencies and their management among individuals aged 45-59 using clickdent application. This research employed a descriptive research design with a survey method. The subjects of this study were the residents of Cimahi city, aged 45 to 59 years. The data was gathered through the completion of a questionnaire by the subjects. A total of 100 samples were collected using random sampling, and the obtained data was analyzed using descriptive analyses. The collected data were processed using Microsoft Excel in picture and table. The results showed that the respondent's level of knowledge about dental pain emergencies had good result with an average of 64.62% answered correctly. It can be concluded that the community has good knowledge about dental pain emergency and the treatment. Clickdent applications can be useful tools to improve dental health management and facilitate access to dental professionals.

**Keyword:** Clickdent, cimahi, dental health, dental pain, emergency.

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## INTRODUCTION

Pain is an unpleasant sensory and emotional experience due to tissue damage.<sup>1</sup> Pain is felt in the form of a sensation and is an image that can be compared with other sensations.<sup>2</sup> Severe dental pain can affect daily activities, such as sleeping, eating, working or socializing and overall quality of life.<sup>3</sup> Sources of pain can be classified as odontogenic and non-odontogenic. Odontogenic pain is associated with changes in the pulp, periodontal, and periapical tissues, and is generally indicated for endodontic treatment.<sup>4</sup> Infection by bacteria will cause an inflammatory process. Infection of the teeth begins with cariogenic substances which cause bacteria to attach and cause caries. If caries is not treated immediately, it will cause infection of the pulp and can lead to pulp necrosis.<sup>5</sup> Necrosis of the pulp will involve inflammation of the periapical and also the periodontal tissue. Inflammation causes tissue damage, stimulating the nerve fibers that carry pain impulses. Then the pain will be sent to the brain and perceived back to the source of the pain.<sup>6</sup> Infection is one of the main drivers of inflammation, which often determines the outcome of tooth survival.<sup>7</sup> Tooth pain that occurs due to tissue damage that is in a sufficiently severe condition is generally still treatable. However, currently, public awareness of the importance of endodontic treatment is very low. The community often chooses to extract problematic teeth.<sup>8</sup> Tooth loss is a dental and oral health problem that often arises because it often interferes with the function of mastication, speech, aesthetics, and even social relations. According to Gerritsen, the loss of one or several teeth can cause disturbances in function and aesthetics, thus interfering with a person's quality of life. Thus, doing endodontic or periodontal treatment is better for relieving the experienced pain.<sup>9</sup> Root canal treatment aims to maintain or restore the condition of the damaged tooth, allowing it to be accepted by the surrounding hard and soft

tissues.<sup>10</sup> Another goal of root canal treatment is to restore the function of the damaged tooth so that there are no symptoms, it can function properly, and there are no signs of disease.<sup>11</sup> Severe pain and swelling are characteristic of dental emergencies. Patients who have a history of long-term discomfort, markedly increasing pain, or swelling are considered to have a dental emergency. In common cases, emergencies may be accompanied by a high level of patient anxiety, which can complicate the diagnosis and treatment. Teeth causing emergency may be associated with irreversible pulpitis or pulpal necrosis, with or without apical and periodontal pathosis and swelling. Each of these situations requires a slightly different clinical approach based on biological considerations.<sup>7</sup>

Pain emergencies often occur in middle age, i.e., ages 45-59. Age 45-59 years is middle age, which is physically different from other age groups. As people get older, toothache complaints are increasing.<sup>12</sup> A person's educational level can also affect their openness to health information and health behavior.<sup>13</sup> According to the results of Basic Health Research in 2018, the age group 45-59 years has a prevalence of 50.8% for painful teeth due to pulp damage.<sup>14</sup> This is due to forgetting the culture of cleaning teeth and declining health, accompanied by the economy.<sup>15</sup> Incorrect handling of emergency tooth pain can cause unwanted complications, resulting in early tooth loss.<sup>9</sup> Based on a survey conducted by the National Social Economy (Susenas) it was found that 62.4% of the research sample experienced painful teeth, which resulted in disruptions to work, school activities and daily activities. The perception of tooth pain increases in the higher age groups and reaches a peak at the age of 45-59 years. Most of the residents who complained of toothache (69.3%) treated their disease themselves, especially with modern medicine. Only 13% of the population went for outpatient treatment to puskesmas,

to the doctor's practice, and to the health worker's practice. The survey reported that the number of residents who reported having had toothache a month ago increased in the higher age group. The highest presentation of tooth pain complaints is at the age of 45-59 years.<sup>16</sup> Based on research conducted by Purra it was found that non-clinical factors will influence decision making in determining treatment plans.<sup>17</sup> The clinical decision-making process involves the interaction of the application of clinical and biomedical knowledge as well as experience. The influencing factors include factors related to the patient, such as socioeconomic status, knowledge, quality of life and patient expectations. There are still many patients with low knowledge of endodontic treatment. The lower the patient's knowledge of emergencies, the lower the patient's awareness to the need to perform endodontic treatment. Knowledge and awareness about effective endodontic treatments will make it easier to take preventive measures and reduce the incidence of widespread tooth damage. In middle age, having intact teeth will affect the quality of life in various ways, such as physical condition, aesthetic appearance, disruption of the masticatory system, and disturbing speech comfort. The results of his research, it was found that patient knowledge and awareness of endodontic treatment and pain are the most important in relation to pain emergency care.<sup>17</sup> According to research conducted by Franciscatto GT concerning the relationship between knowledge the level of knowledge and the appropriate management of endodontic treatment in Australia, it was found that pulpitis in middle age has a strong relationship with dental emergencies. In the study, Franciscatto GT reported that patient age is an independent risk indicator for pain emergencies in this population. The study also reported that middle-aged patients had less knowledge about oral disease prevention and anxiety about dental

consultations. Because of this, patients often wait until the situation is really urgent rather than going to the dentist when it's not too painful. The reason patients seek treatment only in emergencies is due to lack of information regarding oral disease prevention, dental consultation anxiety, and service costs. Judging from the results of his study, patients aged 18-64 had a prevalence of 24% for emergency cases and also 67.1% for cases of patients with pain due to pulpal and periapical disorders. From the conclusions obtained, many cases of pain in patients are related to pulpal disease.<sup>14</sup>

There are many groups of people aged 45-59 in Cimahi City. According to the Cimahi City Population and Civil Registry Office in 2020, there were 103.935 residents aged 45-59 out of the entire population of Cimahi City.<sup>18</sup> The research aimed to assess the knowledge of dental pain emergencies and their management among individuals aged 45-59 utilizing the Clickdent application in Cimahi City. This innovation is a simple and practical but informative application, so that people can be assisted in dealing with toothache emergency situations during the Covid-19 pandemic.

## **METHODS AND SUBJECT**

Clickdent is a modern dental application designed to revolutionize dental health management by providing users with valuable information, facilitating appointment tracking, sending reminders, and establishing connections with dental professionals. In this research, we delve into the effectiveness of Clickdent in enhancing the knowledge of dental pain emergencies and their management among individuals aged 45-59 years. The application's user-friendly interface and comprehensive features make it a promising tool for improving dental health awareness and connecting users with timely professional assistance. Through a descriptive survey, we aim to evaluate the community's knowledge

regarding dental pain emergencies and explore the potential impact of Clickdent on advancing dental health practices. The research was conducted with approval from the Research Ethics Commission (KEP) of Universitas Jenderal Achmad Yani with letter number 005/UM1.01/2021. This research was conducted in three areas of Cimahi City from December 2021 to February 2021.

The data in this study were obtained from filling out questionnaires or questionnaires made online with clickdent application. A questionnaire collects data through a form containing questions submitted online through the Google form application to a person or group of people. Previously, testing was carried out on the questions in the questionnaire, which were distributed to respondents by conducting the validity and reliability tests. Validity and reliability tests were carried out by giving questionnaires to 30 respondents aged 45-59 in Bandung area. This questionnaire was submitted to get answers and information needed by researchers. The list of questions is structured in the form of multiple choice questions. The questionnaire utilized in this study is adapted from the *International Journal of Contemporary Medical Research* by Pura A.R, Sajad M., Ahangar F.A., and Farooq R. in 2018, titled "Patient's Awareness and Knowledge of Root Canal Treatment in

*Kashmiri Population: A Survey-Based Original Research.*" The questionnaire will be translated into Indonesian. The list of questions is structured in the form of multiple-choice questions and serves as the foundation for this research.

The design of this study uses a public opinion survey by asking for public opinion using a questionnaire to collect data containing questions that must be answered. This research was conducted through online questionnaires or remote interviews, by first giving informed consent to the respondents. Sampling was taken by means of stratified random sampling technique; the number of samples obtained was 100 respondents. The data in this study were also obtained from an innovation called Clickdent. Analysis of the data obtained from the results of the examination to describe the knowledge of dental pain emergencies and their treatment at the age of 45-59 years is a descriptive analysis. Dental pain emergency knowledge data and its treatment were processed through the Excel application and presented in the form of tables and figures. The data collected were analyzed descriptively.

## RESULTS AND DISCUSSION

According to the study which was conducted on 100 people in Cimahi city, the following results were obtained (Table 1).

**Table 1.** Dental pain emergency knowledge overview

| No | Statement  | No/Never |      | Yes/Ever |      |
|----|--|----------|------|----------|------|
|    |  | n        | %    | n        | %    |
| 1  | Teeth aching, is an early symptom of cavities  | 15       | 15.0 | 85       | 85.0 |
| 2  | In your opinion, will there be an infection in the teeth if cavities are left alone and not treated                  | 6        | 6.0  | 94       | 94.0 |
| 3  | Tooth pain or swelling due to inflammation cannot be patched immediately but medication must be given first          | 8        | 8.0  | 92       | 92.0 |
| 4  | In your opinion, is the treatment of tooth pain carried out with several visits                                      | 13       | 13.0 | 87       | 87.0 |
| 5  | You have received information about emergency treatment for tooth pain before  | 47       | 47.0 | 53       | 53.0 |
| 6  | Dental pain emergency treatment is only to restore the shape of the teeth so that the mastication process is perfect | 41       | 41.0 | 59       | 59.0 |
| 7  | You visit the dental clinic several times for emergency treatment of tooth pain                                      | 28       | 28.0 | 72       | 72.0 |
| 8  | Do you know the side effects of an extracted tooth?  | 47       | 47.0 | 53       | 53.0 |
| 9  | You would rather have a tooth pulled than an emergency pain treatment  | 78       | 78.0 | 22       | 22.0 |

Table 1. is an overview of dental pain emergency knowledge. The table shows that the description of dental pain emergency knowledge in the Cimahi community is classified into the good category. Questions 1, 2, 3, 4, 7, and 8 required positive responses with 'yes', while question 6 and 9 have negative answers that must be answered no. In addition, number 5 was answered once to show a good picture of knowledge. The table also reveals that the percentage of people who answered each question correctly was good, except for question number 6. The answer to the question number 6 is likely to be 'yes', even though what is being maintained is not just the chewing process. The other functions of the teeth besides mastication (chewing) are protection (protection), aesthetics (beauty), and phonetics (speech). Maintaining these aspects improves the quality of life. Discomfort tooth shows there is damage to the tooth tissue. Tissue damage causes cavities and provides stimulation to the

nerves in the pulp chamber.<sup>7</sup> Inflammation due to the bacterial invasion causes tissue damage. If left untreated, it will get worse and cause severe pain.<sup>18</sup> So from the statement above, it can be seen that most of the respondents already understood their initial knowledge about pain. According to Franciscatto, there is a strong correlation between the level of knowledge and the accuracy of the implementation of care. Additionally, knowledge is also important for determining and making decisions in treating dental pain.<sup>3</sup>

Emergency treatments for tooth pain, such as fillings, root canal treatment, and scaling are required measures to improve mastication. Another goal of root canal treatment is to restore the function of the damaged tooth so that there are no symptoms, it can function properly, and there are no signs of disease.<sup>11</sup> If the toothache disappears, chewing and doing other activities can be more comfortable.<sup>19</sup> Some people do not understand the purpose of emergency pain care, but there are still



many who do (59%).

Many respondents (53%) stated that they had received information regarding emergency treatment for toothache previously. It is evident that there are already many people maintain their oral health although when they are sick, rather than neglecting it. However, there are also 47 people who have never. It can be concluded that 6 out of 9 got a good score because it has reached and/or exceeded 75%, which indicates good knowledge.

Eighty-five percent of Cimahi residents aged 45-59 knew that tooth pain was an early symptom of cavities. Whereas 94% of them knew there would be an infection in the teeth if cavities were left untreated. Tooth pain or swelling due to inflammation cannot be patched immediately, but medication must be given first. Tooth pain therapy involves multiple visits for emergency procedures, with patients are aware of the potential side effects of tooth extraction. Most of the respondents had received information regarding dental pain emergency treatment before. Some respondents visited the dentist when they felt pain in their teeth. Most of them learned about dental pain emergency treatment from the media and asked the doctor for details.

Emergency management of tooth pain among the Cimahi residents aged 45-59 reveals that the majority of respondents regarding the memory of emergency tooth pain care was good. Most of the respondents answered the question related to emergency treatment for painful toothaches. Most of them answered that their concern regarding emergency treatment for toothache is the pain. The majority of respondents met the criteria for symptoms indicating a need for urgent dental emergency treatment, including strong and spontaneous tooth pain.

Dental pain management is a treatment process that involves diagnosis, acute treatment, the use of pain medication, appropriate dental care, preventive care, and, if necessary, follow-up care. The goal of dental pain management is to reduce or

eliminate pain, correct dental problems, and prevent future dental pain. The dentist's role is critical in this process, and prevention is key to avoiding future dental pain.<sup>20</sup>

The assessment was considered good as seen from the total population of Cimahi City aged 45-59 : there were 103,935 residents, and a sample of 100 people was obtained with a percentage of 0.096%. From the formula obtained, the sample is representative of the entire Cimahi population, aged 45-59. The Clickdent application serves as a valuable tool in enhancing dental health management for users. By providing information on dental health, facilitating appointment tracking, sending reminders, and connecting users with dental professionals, Clickdent plays a crucial role in promoting oral health awareness and encouraging timely access to dental care. The study's conclusion underscores the utility of Clickdent as an effective means to empower individuals in managing their dental well-being and fostering seamless communication with dental professionals, thereby contributing to overall oral health improvement.

## CONCLUSION

The study concluded that the majority of respondents in the Cimahi community aged 45-59 years had good knowledge about dental pain emergencies and their treatment. Dental pain emergency awareness among individuals aged 45-59 is classified as good. Most of them are familiar with the definition of dental pain emergency. In terms of managing dental pain, the majority of respondents had positive memory. The respondents' concern in undertaking the emergency dental pain treatment was the experienced pain. In terms of the symptoms indicating a need for the emergency dental pain treatment included the strong and spontaneous toothaches. Overall, improving knowledge and awareness of dental pain emergencies and their treatment can lead to better oral health outcomes and a higher quality of life for the community.

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## DECLARATION OF INTERESTS

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