

## **Enhanced Knowledge by Counseling and Utilizing Traditional Medicinal Plants for Dental and Oral Health to Farmer Groups in Karangrejo Village, Gumukmas District, Jember**

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### **ABSTRACT**

Dental health education is very important to know because teeth and mouth are vital components of the human digestive tract, the function of teeth as a tool for chewing food is used as long as possible in human life so that if there is severe damage resulting in tooth extraction, there are no more replacement teeth. Therefore efforts to prevent dental caries through dental health education by dentists need to be disseminated to the community around us so that prevalence of dental disease in Indonesian society can decrease and not increase. Community service activities are carried out by a community service team from the University of Jember located in the UNEJ Foster Village in Karangrejo Village, Gumukmas District, Jember Regency. Karangrejo Village in Gumukmas District is quite far from the city center of Jember which causes access to Dental and Oral Health services in that area is still limited. The condition of the Covid-19 pandemic which limited actions other than emergencies also contributed to the problem of dental caries in the village. Location surveys and discussions were carried out with village officials, and Karangrejo villagers to see the potential for traditional plants growing around the village environment and in the backyard houses that can be used to help maintain dental hygiene and oral health. This service activity aims to increase knowledge of Karangrejo Villagers to maintain dental health and the use of traditional medicinal plants that have properties to help maintain dental health. The results of location surveys and discussions found that the level of knowledge of Karangrejo villagers to maintain dental health is still not optimal. Increasing the level of knowledge about dental and oral health indirectly increases citizen awareness about the importance of dental and oral health as well as the existence of independent efforts that can be made to prevent dental caries.

Keywords: Dental health, dental caries, traditional plants, karangrejo.

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### **INTRODUCTION**

The most dominant dental disease in the community is dental caries. The prevalence of dental health in Indonesia due to low public knowledge is an increase in dental caries. The Prevalence of dental disease for Indonesian people has increased by around 70% due to dental caries. The prevalence of people with dental and oral problems in Indonesia according to the 2018 Riskesdas was 57.6% with a National DMF-T index of 7.1% (RI Ministry of Health, 2018). Dental caries is a process of decay due to the gradual dissolution of enamel and continues to progress to the inside of the tooth. (Tarigan, R. 2013). Caries is the result of the interaction of bacteria on the tooth surface,

plaque, and diet (especially carbohydrate components which can be fermented by plaque bacteria into acid, especially lactic and acetic acids) resulting in demineralization of hard tooth tissue and requires sufficient time for its occurrence (Carranza *et al.*, 2019). Dental caries or cavities is a disease in the oral cavity caused by the destructive activity of bacteria against the hard tissue of the teeth (enamel, dentin, and cementum). If this damage is not treated immediately, it will soon spread and expand. If left unchecked, cavities will cause pain, tooth loss, infection, and even death (Putri *et al.*, 2010).

During the Covid-19 Pandemic, access to dental and oral health in public health facilities and dentist clinics was also very limited to only emergency cases (relief of pain) without any further treatment (Azizah *et al.*, 2021). The community of Karangrejo village deal with dental and oral health problems independently, the methods used to treat toothaches may not have been proven and clinically tested and are less effective so if they are not treated further by dentists can cause recurring complaints or new dental disease problems that are getting worse.

Efforts to maintain dental and oral health apart from brushing teeth can be assisted by the use of traditional plants. Dental caries and other oral diseases can be prevented with natural medicines from around the community's houses by utilizing traditional medicinal plants. The use of natural materials using medicinal plants is also used by the community to prevent dental and oral health problems and treat dental diseases when in an emergency condition they cannot visit the dentist or the nearest public health facilities. Medicinal plants used by the community utilize plants around the house. Plants around the household are known as family medicinal plants (TOGA) (Mewengkang *et al.*, 2020).

Karangrejo Village has a total population of 11182 people, most of them work as farmers. Most of the people in Karangrejo village have a yard around their house for planting various types of plants. Various kinds of plants that live in the yards are plants that can be used as traditional medicinal plants. Most of the villagers know that plants that are planted or that grow in their yards are beneficial but do not know the potential of these plants for dental health. This can be a solution to overcoming various problems related to dental and oral health independently during the Covid-19 Pandemic. This service activity aims to provide information about dental caries and its prevention and the use of plants that have medicinal properties to maintain dental and oral health in Karangrejo Village, Gumukmas District, Jember.

## **METHODS**

### ***Time and Place***

Community service activities were carried out on 2022, October 29 at Karangrejo Village, Gumukmas District, Jember Regency. Location surveys were carried out around houses and the village hall to inspect the yards which planted with medicinal plants or growing around houses. A preliminary survey was conducted to obtain data on dental disease problems and dental health education activities that had been carried out previously in Karangrejo Village through village officials. The participants in the extension were the farmer group "Tani Mulyo", villagers, and young women from youth organizations.

### ***Implementation Method***

The implementation of the service is divided into three activities namely field visits by the Jember University service team, presentation of dental health education material, and evaluation of

counseling by filling out dental and oral health questionnaires. The target of community service activities is the Mulyo Farmer Group, Karangrejo Village, Gumukmas District. Field visits were carried out at the farmer's houses and the environment around the village hall which aimed to find out firsthand the condition of the yards of the farmers' houses in Karangrejo Village where there are traditional medicinal plants. The presentation of the material was carried out through the method of presentation and discussion.

### **Evaluation**

Evaluation of the activity was carried out to determine the level of knowledge of Karangrejo Villager regarding the importance of dental and oral health and the use of medicinal plants in dental and oral health maintenance. The evaluation aims to measure the achievement of activity targets and to improve other similar activities. Quantitative descriptive evaluation is an evaluation method used to describe objects observed through sample or population data. The evaluation data is in the form of a questionnaire which is quantitative data. The discussion regarding the evaluation is explained descriptively so that it can be seen the comparison of the level of understanding of the Karangrejo villagers before and after the dental and oral health counseling.

## **RESULTS AND DISCUSSION**

Karangrejo Village is a village in Gumukmas District, Jember Regency, East Java Province. To the east, it is bordered by Grenden Village, and to the west by Menampu Village. While in the north it is bordered by Bagorejo village, and in the south, it is bordered by Mojomulyo Village. Based on the results of a survey of village profiles by the Jember University service team, the total population of the village is 11182 (table 1) with 5600 male residents and 5582 female residents respectively.

Table 1. Demographic data of Karangrejo's village on 2022

No	Population	Total (people)
1	Total Population	11182
2	Male Population	5600
3	Female Population	5582
4	immigrant until the year 2022	9
5	Resident leaves until the year 2022	27
6	Total of Hamlet	2

Based on the age structure, Karangrejo Village has a larger productive age ratio (ages from 15 years – 64 years) with a total of around 8179 people (table 2). Productive age should show an optimal ability to maintain oral and dental health better than the younger ages because awareness of the importance of dental and oral health also contributes to general body health (Sriyono, N. W. 2009). However, this is also influenced by the level of knowledge. The emergence of dental and oral health problems in a person is one of the causative factors in the level of knowledge. Knowledge is influenced by internal factors and external factors (Notoatmodjo, S, 2003). Internal factors consist of age and gender. External factors consist of work, sources of information, experience, social culture, and environment. The factors that influence knowledge are: internal factors, external factors, and learning approach factors. The high rate of dental and oral disease is currently strongly

influenced by several factors, one of which is the behavior factor of people who are not yet aware of the importance of maintaining dental and oral health (Notoatmodjo, 2012). Dental and oral health maintenance is one of the efforts to improve health. The oral cavity or mouth is not just for port the entry of the digestive system but the function of the mouth is very important in supporting the health of the body (Tjahja, 2005).

Table 2. Population by Age of Karangrejo's village on 2022

No	Age Structure	Total (people)
1	< 1 year	184
2	1-4 years	474
3	5-14 years	1606
4	15-39 years	4266
5	40-64 years	3913
6	65 years and over	975

Population-based on occupation in table 3 shows five types of work which represent the type of work that is mostly carried out by residents of Karangrejo village, Gumukmas, where most of the residents work as farmers. The potential of medicinal plants that can be used for dental and oral health can be observed in the land around the residents' yards. Traditional plants such as betel leaves, bay leaves, and garlic can be planted around agricultural land or in the yard of the house. These medicinal plants can be used to help maintain healthy teeth and mouth because they have anti-inflammatory, antiseptic, and anti-pain effects. The advantages of using traditional medicinal plants for dental and oral health are the ease of obtaining natural medicines provided by nature, they are cheaper, and they have relatively smaller side effects if used in the right doses.

Table 3. Population by the occupation of Karangrejo's village on 2022

No	Types of Occupation	Total
1	Male farmers	2762
2	Female farmers	1752
3	Male farm laborer	1252
4	Female farm laborer	870
5	Fisherman	175

### **Presentation of Dental and Oral Health Materials**

The community service program activities began with conducting field visits to the village hall and yards around the farmer's house in Karangrejo Village. The field visit was intended to find out the condition of the yards of the houses of the villagers who have medicinal plants for dental and oral health (Figure 1).

The results of field visits and discussions with village officials and residents of Karangrejo village found that knowledge about dental and oral health is still not optimal. Villagers have medicinal plants that are planted around their yards, but many do not know about their benefits and how to properly process them to help maintain healthy teeth and mouth.

It turned out that dental and oral health education had never been carried out at all in Karangrejo village, Gumukmas the last few years during the Covid-19 pandemic. There is a lot of counseling about health in general, but dental health education has not received attention so that with this community service program it is hoped that it can help the residents of Karangrejo Village, Gumukmas District obtain additional information about how to prevent dental caries and the use of medicinal plants to help maintain dental and oral health.



Figure 1. Field Visits

Presentation of the material was carried out using the presentation method. The Jember University service team conducted counseling regarding dental caries and how to prevent them. The interaction of bacteria, saliva, carbohydrates, and time in the oral cavity forms acids that can damage the hard tissue of the teeth resulting in dental caries. In addition, it also explained how to prevent caries by mechanical cleaning by brushing your teeth with toothpaste containing fluoride. The frequency of good and correct brushing is explained at least 2 times a day in the morning after eating and at night before going to bed and limiting consumption of sweet, soft, and sticky foods. The food consumed should be vegetables and fruits with fiber (Almatsier, S. 2003).



Figure 2. Dental and Oral Health Counseling

Counseling also explained material about choosing a toothbrush with a medium level of softness of toothbrush bristles, not too hard or too soft, and always replace your toothbrush regularly every 3-4 months. Good and correct tooth brushing techniques are demonstrated live with dental phantom props and information shown in the presentation.

Efforts to maintain dental and oral health apart from brushing teeth can be assisted by the use of traditional plants. Community problems such as caries and other oral diseases can be prevented and overcome with natural medicines from around the community's houses by utilizing traditional medicinal plants. The selection of traditional medicinal plants for indications of certain diseases, explanation of which parts of the plants can be used, how to use them to maintain dental and oral health, and how to process them to be used to help maintain dental and oral health are explained through pictures of plants and information on presentation media.

After the counseling, the activity continued with questions and answers and discussions with villagers and youth organizations regarding the problems that are often experienced related to dental and oral diseases. Most of the residents complained about 5 dental and mouth problems that were often experienced by residents during the Covid -19 pandemic, including dry mouth, bad breath, bleeding gums, and teeth when brushing their teeth, pain in the teeth, gums, and cavities in the teeth. The Counseling also discussed possible solutions to deal with the problem of dental disease as well as educational materials that were not yet understood (Figure 2).

### ***Evaluation of Farmers' Understanding, Constraints, and Activity Recommendations***

Counseling respondents who filled out the questionnaire were residents of Karangrejo village and young women aged around 25-60 years and belonging to the productive age category. The results of the evaluation of understanding showed that the level of knowledge of dental and oral health was high because most of the Karangrejo villagers who filled out the questionnaire understood the dental and oral health education material that had been delivered. This is evidenced by the results of an average score reaching 90-100 or there was only an error in answering 1 question out of 25 respondents, so it can be concluded that there was an increase in the knowledge of the Karangrejo villagers about dental and oral diseases and how to prevent them and the use of medicinal plants in a home environment to help maintain dental health independently.

In general, the residents of Karangrejo Village, Gumukmas understand that dental health is very important to support holistic body health, but the awareness of the Karangrejo villagers to have routine dental checks to the dentist every 6 months even though there are no complaints is still not prioritized. Residents of Karangrejo Village are used to waiting for complaints and toothaches before having their disease checked at a public health facility. Even though dental caries and other oral diseases can be prevented and detected as early as possible if we routinely visit the dentist because the diagnosis of dental disease or complaints related to dental and oral health can only be done by a dentist.

Based on the results of the evaluation of the questionnaires that have been given, it is necessary to follow up so that the dental and oral health program can take place continuously, namely cooperation in providing routine counseling regarding dental and oral health problems with different and varied materials so that knowledge about dental and oral health can be obtained and disseminated so that the prevalence of dental caries and other oral diseases can be reduced.

## **CONCLUSIONS**

This Community Service aims to increase public knowledge and awareness to maintain dental and oral health by providing information to the community, especially residents of Karangrejo Village, Gumukmas district, Jember through counseling on how to maintain dental hygiene and oral health, how to brush teeth properly and provide information about various plants that have medicinal properties to maintain healthy teeth and mouth during the Covid-19 pandemic. An increase in knowledge of dental and oral health can increase community self-awareness to be able to take preventive measures for dental and oral diseases as early as possible.

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