

Research Report

## Dental Health Knowledge Improvement about Malocclusion After Oral and Dental Health Empowerment at Miftahul Ulum Melirang Islamic Junior High School, Melirang Village, Bungah District, Gresik

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### ABSTRACT

**Background:** Malocclusion is one of dental health problem that may affect the oral health in adolescences. The dental health education delivered is expected to be able to change the dental health behaviour of individuals or communities from unhealthy to healthy behaviour. **Purpose:** To increase knowledge of oral health, especially the level of knowledge of malocclusion by means of empowerment of dental health knowledge at Madrasah Tsanawiyah Miftahul Ulum Melirang Junior High School, Gresik. **Methods:** A total of 100 junior high school children from grade tenth, eleventh, twelfth were included in the study. Data was collected by instructing participants to fill out a pre-test questionnaire on Google drive, then a teledentistry was conducted and ended by filling out a post-test questionnaire to determine the increase in oral health knowledge for evaluation of dental health empowerment. **Results:** The main level of knowledge of dental and oral health is good (50%), moderate (40%) and low (10%). Knowledge about dental malocclusion is only 40% who have good knowledge about malocclusion, others are low enough to reach 20% knowledge and other respondents have moderate 40%. After the dental health empowerment program, the knowledge of the participant regarding the oral health was enhanced. **Conclusion:** the dental and oral health empowerment was performed successfully that increased the level of knowledge of children and teachers is still less than optimal about knowledge of malocclusion, so it is necessary to carry out socialization actions regarding the impact of malocclusion.

**Keywords:** Oral Health; Medicine; Dentistry; Malocclusion; Children Health

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### INTRODUCTION

The underlying cause of the low level of public health regarding dental and oral health is influenced by environmental factors (45%), behaviour (30%) and health services (25%). Based on the report on the results of the National Basic Health Research or Riset Kesehatan Dasar (Riskesdas) in 2013, as many as 14 provinces experienced dental and oral problems, namely 25.9%. One of the major dental and oral health problems is malocclusion, which affect 80% of total population.<sup>1</sup>

Malocclusion is an abnormal condition of dento-craniofacial growth that affects the position of the teeth in the dental arch which can interfere with aesthetics, chewing, swallowing, speaking, and aesthetic functions as well as facial alignment.<sup>2,3</sup> Malocclusion can occur due to abnormalities in the teeth (dental), the upper and lower jaw bones (skeletal), the combination of the teeth and jawbone (dentoskeletal) and soft tissue abnormalities (muscle muscles).<sup>4</sup>

The overall health, well-being, education and development of children, families and communities can be affected by oral health. Knowledge is very closely related to education, where it is hoped that with higher education, the person will have wider knowledge. Dental health efforts need to be reviewed from environmental aspects, knowledge, education, public awareness and dental health management, including prevention and treatment. In this case, for example, students who still do not have much broad knowledge, especially about dental and oral health.<sup>5-7</sup> Knowledge of dental and oral health is one of the efforts to prevent and overcome dental health problems through an approach to dental and oral health education. The dental health education delivered is expected to be able to change the dental health behavior of individuals or communities from unhealthy behaviour to healthy behavior.<sup>8</sup>

Community service activities are carried out to provide broad knowledge about dental and oral health, especially related to malocclusion that occurs from an early age. The Madrasah Tsanawiyah Miftahul Ulum Melirang is

located in Melirang Village, Bungah District, East Gresik Regency. The location of this school is far from the city centre. The problem that arises is that this school has never received education about dental malocclusion for students and teachers. The purpose of this community service is to increase knowledge of dental and oral health, especially the level of knowledge of malocclusion after empowering dental health at SD Madrasah Tsanawiyah Miftahul Ulum Melirang, so that it can improve the quality of health related to the dental and oral health of students at Madrasah Tsanawiyah Miftahul Ulum Melirang, Melirang Village, Bungah District, East Gresik Regency.

## MATERIALS AND METHODS

This research is an analytic observational study at Madrasah Tsanawiyah Miftahul Ulum Melirang, Melirang Village, Bungah District, Gresik Regency, East Java, collecting research data. The sample size of this study was 100 people ranging from grades tenth, eleventh, twelfth (thirteen to fifteen years old). Data collection was carried out by instructing participants to fill out pre-test questionnaires, then teledentistry seminars were carried out and ended by filling out post-test questionnaires to determine the increase in dental and oral health knowledge for evaluation of dental health empowerment.

## RESULTS

The main level of knowledge of dental and oral health is mainly good (50%), moderate (40%) and low (10%) so that knowledge about predisposing factors of health behaviour that leads to disease (Table 1). Knowledge about dental

malocclusion is only 40% who have good knowledge about malocclusion, others are low enough to reach 20% knowledge and other respondents have moderate 40% (Table 2). After the dental health empowerment program, the knowledge of the participant regarding the oral health was enhanced, post-test score 89.76% (Table 3).

## DISCUSSION

The level of dental and oral health knowledge is mostly good (50%) and a minority with moderate (40%) and low (10%) knowledge so that knowledge about health is a predisposing factor for health behaviour that leads to disease. This knowledge is also closely related to a person's attitude about disease and its prevention efforts. The higher the child's school level, the more visible the roles of knowledge will be. A small proportion of school-age children have low knowledge about dental health.<sup>9</sup>

Knowledge of dental malocclusion is only 40% who have good knowledge about malocclusion, others are quite low up to 20% and other respondents have moderate knowledge of 40%. Most of a person's main motivation for orthodontic treatment and correcting a malocclusion is appearance. Most people know that orthodontic treatment is needed to prevent malocclusion, but only a few know the causes and signs of malocclusion so that the potential for malocclusion is still high.<sup>10,11</sup>

Malocclusion has two main factors, namely hereditary factors and environmental factors. Environmental factors can be in the form of bad oral habits and can also be caused by trauma. Malocclusion can also be caused by growth and development disorders.<sup>12,13</sup> This study only focuses on the causes of malocclusion caused by the respondent's lack of knowledge. The orthodontic problem of malocclusion is

**Table 1.** Knowledge Level of Dental and Oral Health in Madrasah Tsanawiyah Miftahul Ulum Melirang, Melirang Village, Bungah District, East Gresik Regency.

Dental and Oral Health Knowledge	Respondents	Percentage (%)
Good	50	50
Moderate	40	40
Low	10	10
Total	100	100

**Table 2.** Knowledge Level of Malocclusion in Madrasah Tsanawiyah Miftahul Ulum Melirang, Melirang Village, Bungah District, East Gresik Regency.

Knowledge of Malocclusion during Dental Development	Respondents	Percentage (%)
Good	40	40
Moderate	40	40
Low	20	20
Total	100	100

**Table 3.** Pre-test and Post-test score regarding the knowledge about Malocclusion during Growth in Madrasah Tsanawiyah Miftahul Ulum Melirang, Melirang Village, Bungah District, East Gresik Regency.

Knowledge of Dental and Oral health	Respondents	Percentage (%)
Pre-test	100	49.56%
Post-test	100	89.76%

generally not associated with high mortality or morbidity; hence, they tend to be neglected. After the dental health empowerment program, the knowledge of the participant regarding the oral health was enhanced. However, other studies have shown that malocclusion has a significant impact on the psychosocial health of affected persons.<sup>14,15</sup>

## CONCLUSION

The dental and oral health empowerment was performed successfully that increased the level of knowledge of children and teachers is still less than optimal about knowledge of malocclusion. However, it is still necessary to carry out socialization actions regarding the impact of malocclusion related to quality of life.

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