

Research Report

## Dental health knowledge increased as a result of dental health education on elderly denture care in Surabaya, Indonesia

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### ABSTRACT

**Background:** Losing teeth as a result of tooth extraction is a concern since it can affect speech impairment, temporomandibular junction (TMJ) dysfunction, masticatory dysfunction, and psychological disorders, specifically aesthetics. A fixed denture or a removable denture must be made to replace missing teeth in order to preserve the quality of life of the patient. **Purpose:** to describe the improvement in oral and dental health knowledge that resulted from dental health education about how to care for dentures in the nursing home. **Methods:** The data collection was done by two surveyors. The sample size for this study was 50 individuals over the age of 50. Under the direction of Jagir Health Centre, Pelangi and Lestari nursing home to educate the elderly about the instruction on how to take care of dentures. For the pre- and post-tests, the participants were required to complete a questionnaire in order to assess how their knowledge of oral and dental health had changed. **Results:** The presentation on oral and dental health education was mostly grasped by the participants. In comparison to the pre-test rate (58%), the post-test percentage (98%) was higher. **Conclusion:** This study showed that enhancement of elderly awareness of their oral and dental health condition through dental health education was a successful approach.

**Keywords:** medicine; dentistry; dental health; education; elderly

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### INTRODUCTION

There are two types of causes for tooth loss: disease-related and non-disease-related.<sup>1</sup> Caries and periodontal disease are examples of disease variables, whereas lifestyle choices and socioeconomic factors are examples of non-disease factors.<sup>2</sup> One of the most prevalent reasons for tooth loss in elderly individuals and young adults is dental caries and periodontitis. A dental infection such as caries and periodontitis is contagious. Untreated dental caries can worsen, resulting in discomfort and sometimes even tooth loss.<sup>3</sup> Losing teeth as a result of extraction is a concern since it can affect speech impairment, TMJ dysfunction, masticatory function, and psychological disorders, specifically aesthetics.<sup>4,5</sup> A fixed denture or a removable denture must be made to replace missing teeth to prevent a decline in a person's quality of life. As removable dental prosthetics, dentures serve to replace the upper and lower arch's chewing surface and supporting structures. Dentures serve to restore aesthetic function, protect residual tissue, stop tooth resorption, and spread chewing loads more

evenly.<sup>6,7</sup> In Indonesia, 25.9% of the population has dental and oral problems, while 31.1% of people receive medical treatment there. The productive age groups, specifically those between 35 and 44 and 45 to 54, have the highest rates of dental and oral problems.<sup>8,9</sup>

There are several negative impact due to tooth loss, including functional, systemic, and emotional ones. Reduced ability for speaking, biting, and chewing are the functional effects. Due to poor oral health and dietary changes, systemic consequences include systemic disorders such nutritional deficiencies, osteoporosis, and cardiovascular disease. Losing teeth emotionally has an adverse effect on self-confidence, which restricts activities. Dentures are required to replace missing teeth and restore function and appearance.<sup>10-12</sup>

Loss of teeth can also have an emotional effect, namely on how patients feel or respond when they learn they have lost all of their teeth. Losing teeth can alter a person's facial features, including their height, prognathized jaw, and face shape. These changes can lead to emotions like sadness and depression, loss of confidence, feeling old, changing

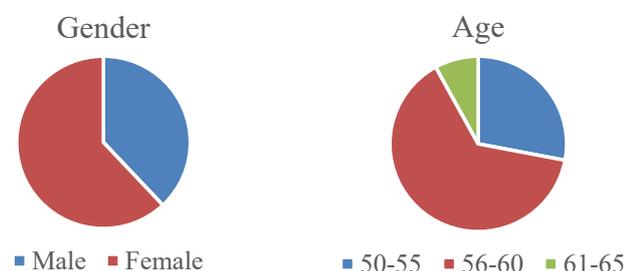
behavior, and a desire for privacy when they are not wearing their teeth.<sup>13-15</sup> Particularly in the eyes of those living in our current era, being unattractive due to tooth loss can lessen one's attractiveness. To restore mastication, speaking, and esthetic functions, lost teeth must be replaced with dentures. There are several varieties of dentures, including removable and fixed partial dentures and full dentures.<sup>16,17</sup>

This study is a part of a community service project, education regarding different denture is provided to elderly citizens. This study conducted in the Pelangi and Lestari nursing home, Surabaya City, East Java. The issue is that many elderly people in this place were unaware of the value of dentures for replacing lost teeth. Furthermore, the aim of this study is to describe the improvement in oral and dental health knowledge that resulted from dental health education about how to care for dentures in the nursing home.

**MATERIALS AND METHODS**

Under the purview of Jagir Health Centre, data for the study were gathered from Pelangi and Lestari nursing home in the Surabaya City, East Java. The data collection was done by two surveyors. The sample size was fifty participants, over the age of fifty from Pelangi and Lestari nursing home. Pre-test questionnaires were given to the participants, followed by seminars on the different types of dentures and how to care for them, and a post-test to gauge how much their knowledge of oral and dental health had improved for the dental health education evaluation. The identical questions from the pre- and post-tests include:

1. How many times do you brush your teeth a day? A. 2 times a day; B. 5 times a day
2. Can dentures be used while sleeping? A. Yes; B.No
3. Do you need to clean dentures regularly? A. Yes; B.No
4. Could you clean the dentures with toothpaste? A. Yes; B.No
5. Could you clean the dentures with hot water? A. Yes; B.No



**Figure 1.** Descriptive characteristic of respondent.

**Table 1.** Pre-test and Post-test regarding elderly's understanding of dental health status in Pelangi and Lestari nursing home.

Knowledge	Participants	Percentage (%)
Pre-test score	50	58
Post-test score	50	98

**RESULTS**

Figure 1 depicts a descriptive feature of the responder. The majority of participants in oral and dental health tests had post-test percentages that were greater (98%) than pre-test percentages (58%) following an empowerment presentation to seniors on various types of dentures and how to care the dentures (Table 1).

**DISCUSSION**

Dentures must be used to replace missing teeth in order to regain the ability to eat, communicate, and facial aesthetic. Denture use may prevent experiencing sadness and depression, losing confidence, feeling old, altering one's behavior, feeling unprepared to accept losing one's teeth, and not wanting other people to see how one looks without teeth. Mastication and dental health might also be improved by dentures that replaced missing teeth.<sup>18,19</sup> There are many different kinds of dentures, including complete and partial dentures (fixed or removable).<sup>20</sup>

During denture use, it might develop plaque, stains, and calculus much like those with real teeth. Many soft tissue changes, such as denture stomatitis, inflammation, papillary hyperplasia, or chronic candidiasis, may be brought on by this plaque buildup on dentures. To avoid the re-agglomeration of microbiological plaque and to remove food particles, calculus, and external discoloration, denture users should perform frequent cleanings.<sup>21</sup>

In order to increase understanding of the significance of Quality of Life Related to Oral Health by increasing the post-test score as much as (98%) than pre-test score (58%), this community service successfully educated the elderly in Pelangi and Lestari nursing home about denture. Participants also received a brochure about how to take care of their dentures. Dental health education using leaflets media to educate people about oral health can be successful.<sup>22</sup> The elderly who participate in this community service are at least 50 years old. They have a strong commitment to the information provided on the different types of dentures and denture maintenance. Preventive dentistry includes education for the elderly, Furthermore, the education and motivation are the two parts of preventive dentistry counseling for senior patients.<sup>23</sup>

**CONCLUSION**

This study result showed that enhancing elderly people's awareness of their dental and oral health condition through education was a successful approach.

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