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**Knowledge of Dental and Oral Health with Tooth Loss Incidence in the  
Elderly at Hargodedali Nursing Home**

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**ABSTRACT**

**Background :** Dental and oral health is a fundamental part of general health and affects overall well-being. Having optimal oral and dental health can help a person to maintain oral function, and can make a person feel better and confident. A person who gets older will experience a decrease in physical abilities so that they often experience health problems, especially in the elderly. The elderly or the elderly often do not pay attention to and maintain good oral and dental health due to disruption of physical health, so that a decrease in the level of dental and oral hygiene often causes tooth loss and tooth loss. The results of the 2018 Basic Health Research found that 57.6% of Indonesians had dental and oral problems, with 54.2% of the age group over 65 years old. Elderly aged over 65 years experienced dentulous incidence as much as 79.8% and 9.0% experienced edentulous. (RISKESDAS, 2018). Based on the examination that has been carried out on 10 elderly people at the Hargodedali Nursing Home, the results obtained as many as 7 (70%) elderly have less than 20 teeth in the oral cavity and only 3 (30%) elderly have more than 20 teeth in the oral cavity. **Purposes :** To determine the relationship between knowledge of oral and dental health and tooth loss at Panti Werdha Hargodedali Surabaya 2022. **Design :** This study is a quantitative study with a cross sectional type of research. **Results:** There is a relationship between knowledge and the incidence of tooth loss in the elderly at the Hargodedali nursing home ( $P<0,05$ ).

**Keywords :** Knowledge, Tooth Loss, Elderly.

**BACKGROUND**

Oral and dental health is a fundamental part of general health and affects overall well-being. Having optimal oral and dental health can help a person to maintain oral function, and can make a person feel better and confident (Wulandari *et al.*, 2018). Efforts to achieve optimal dental and oral health can start from increasing knowledge about teeth and mouth, the most common dental and oral diseases and how to treat them so as to avoid the occurrence of various dental and oral diseases (Amaliya *et al.*, 2020). Dental and oral disease is a disease that can affect all ages, both in children, adolescents, adults and the elderly (Ermawati, 2015 ; Auli *et al.*, 2020).

A person who gets older will experience a decrease in physical abilities so that they often experience health problems, especially in the elderly. Elderly or elderly often do not pay attention and maintain good dental and oral health due to disruption of physical health, resulting in a decrease in the level of dental and oral hygiene which causes tooth loss and results in tooth loss (Watuna, 2015 ; Auli *et al.*, 2020). This tooth loss will have an impact on psychological and social aspects, namely the elderly will feel embarrassed so that it is difficult to interact with other people and causes disruption of concentration when doing activities. Tooth loss can also affect the function of teeth in the oral cavity, one of which is the masticatory function. The elderly will have difficulty chewing food if the number of teeth in the oral cavity is missing,

the decreased function of digesting food can affect the nutritional needs of the elderly (Setyowati *et al.*, 2021).

The results of the 2018 Basic Health Research found that 57.6% of Indonesians had dental and oral problems, with 54.2% of the age group above 65 years. Elderly aged over 65 years experienced dentulous incidence as much as 79.8% and 9.0% experienced edentulous. (RISKESDAS, 2018). Based on the results of the examination that was carried out on 35 elderly people at the Hargodedali Nursing Home, it was found that 27 (77%) elderly had less than 20 teeth in the oral cavity and only 8 (23%) elderly had more than 20 teeth in their oral cavity.

Knowledge is a guide in shaping one's actions, behavior based on knowledge will last longer than those that are not based on knowledge (Induniasih *et al.*, 2016). The results of a survey that has been conducted on nurses who take care of the elderly at the Hargodedali Nursing Home for the last 5 years have not provided counseling and routine dental checks by dental health workers. Health checks and counseling are only carried out by nurses. Counseling is one way that can be done to add information and increase one's knowledge. Minister of Health Regulation no. 89 of 2015 states that to determine the factor of tooth loss, an index is made for young adults or pre-elderly before entering old age. When someone enters old age, they still have good teeth with more than 20 natural teeth (Permenkes RI, 2015). The statement shows that the target for tooth loss in the elderly is not appropriate, the elderly must have more than 20 natural teeth in the oral cavity. The problem in this study is the high prevalence of tooth loss for optimal mastication in the elderly at the Hargodedali Nursing Home in Surabaya.

## **RESEARCH METHODS**

This study is a quantitative study with a cross sectional type of research that aims to analyze the relationship between the knowledge of the elderly about dental and oral health with the incidence of tooth loss in the elderly at the Hargodedali Nursing Home in Surabaya. The population used in this study were all the elderly living in the Panti Werdha Hargodedali Surabaya, amounting to 47 people. Samples were taken using purposive sampling, namely sampling with several considerations according to inclusion and exclusion criteria. The inclusion criteria in this study were the elderly at the Hargodedali Nursing Home who were willing to participate in the study, willing to fill out informed consent, cooperative and able to communicate well. After considering the inclusion criteria, there were 35 people. The data collection instrument in this study used a questionnaire sheet to measure the level of knowledge of the elderly about dental health, an oral examination sheet and a diagnostic tool set to determine the number of teeth in the oral cavity of the elderly at the Hargodedali Nursing Home in Surabaya. Data analysis in this study used the SPSS version 25 application using the chi square test with a significance degree of  $= 0.05$ , to analyze the relationship between knowledge about oral health and the incidence of tooth loss in the elderly at the Hargodedali Nursing Home in Surabaya. The hypothesis in this study is H0 which shows that there is no relationship between knowledge of oral health and the incidence of tooth loss in the elderly at the Hargodedali Nursing Home in Surabaya. While H1 shows that there is a relationship between knowledge of oral health and the incidence of tooth loss in the elderly at Hargodedali Nursing Home in Surabaya.

This research has been approved by the Health Research Ethics Commission of the Surabaya Health Polytechnic No. EA/1240/KEPK-Poltekkes\_Sby/V/2022.

## RESULTS AND DISCUSSION

Table Results of Measurement of Dental and Oral Health Knowledge Data with Tooth Loss Incidence in the Elderly at Hargodedali Nursing Home in Surabaya.

No.	elderly knowledge	frequency	percentage
1.	Good	8	23%
2.	Medium	6	17%
3.	Low	21	60%
Total		35	100%

Based on table Results of Measurement of Dental and Oral Health Knowledge Data with Tooth Loss Incidence in the Elderly at Hargodedali Nursing Home in Surabaya, it was found that the knowledge of the elderly about dental and oral health in 35 people as many as 8 people (23%) in the good category, as many as 6 people (17%) in the medium category and as many as 21 people (60%) in the poor category. Based on the results of the questionnaire observations, it was found that respondents did not know about the characteristics of a healthy mouth, the impact of tooth loss can cause difficulty chewing, regular dental check-ups are carried out every 6 months and the right time to brush their teeth is in the morning after breakfast and at night before going to bed. These questions are basic questions that someone needs to know with the aim of being able to practice them in everyday life. Knowledge is one of the factors that influence a person's behavior. If someone has good knowledge, he will know the actions that should be taken to prevent and overcome the health problems that are being experienced so that they can improve their health status (Abarca, 2021).

Table Results of Data Collection on Tooth Loss in the Elderly at Hargodedali Nursing Home in Surabaya.

No.	The incidence of tooth loss	frequency	percentage
1.	Teeth Function ( $\geq 20$ Teeth)	8	23%
2.	Non-Function Teeth ( $< 20$ Teeth)	27	77%
Total		35	100%

Based on table Results of Data Collection on Tooth Loss in the Elderly at Hargodedali Nursing Home in Surabaya, it is known that from 35 respondents, 27 (77%) elderly at Hargodedali Nursing Home in Surabaya in 2022 had non-functioning teeth ( $< 20$  teeth) in the oral cavity and as many as 8 (23%) elderly at Hargodedali Nursing Home had functioning teeth. ( $\geq 20$  Teeth). Dental caries is one of the main causes of tooth loss, in line with the research conducted by Sari & Jannah (2021) which stated that the elderly in Wreda Surakarta had dental caries, missing/removed teeth, filling and loose teeth. The majority of the elderly living in Panti Wreda Surakarta no longer have teeth because their teeth have fallen out or have been extracted due to dental caries and residual roots on the teeth that cause functional impairment in the oral cavity of the elderly.

Table Relationship of Knowledge about Dental and Oral Health with the Incidence of Loss of Elderly Teeth at Hargodedali Nursing Home

Elderly Knowledge Variables	Variables of Tooth Loss		P Value
	Teeth Function ( $\geq 20$ Teeth)	Non-Function Teeth ( $< 20$ Teeth)	
Good	4	4	

Medium	3	3	0.008
Low	1	20	
Total	8	27	35

Table Relationship of Knowledge about Dental and Oral Health with the Incidence of Loss of Elderly Teeth at Hargodedali Nursing Home, shows that of the 21 people who had poor knowledge, as many as 20 people (95%) had non-functioning teeth (<20) and only 1 person (5%) had functioning teeth ( $\geq 20$  teeth). Elderly with moderate category knowledge of 6 people found 3 people (50%) had non-functioning teeth (<20) and 3 people (50%) had functioning teeth ( $\geq 20$  Teeth). Based on the results obtained from 8 people with good knowledge, 4 people (50%) had non-functioning teeth (<20) and 4 people (50%) had functioning teeth ( $\geq 20$  teeth). After statistical test using Chi-Square obtained a significant value of 0.008 which means (sig <0.05) then the hypothesis (H1) is accepted and (H0) is rejected. This shows that there is a relationship between knowledge of oral health and the incidence of tooth loss in the elderly at the Hargodedali nursing home. Knowledge is an important domain in the realization of a person's health status, in line with the results of research by Pili et al., (2018) which was conducted in the working area of UPTD Puskesmas I Penebel which showed a relationship between the level of knowledge and the dental and oral hygiene of the elderly. Good knowledge can improve health status and affect a person's behavior in maintaining oral hygiene.

## CONCLUSION AND RECOMMENDATION

Results Based on the research on dental and oral health knowledge with the incidence of tooth loss conducted at the Hargodedali Nursing Home, the following results were obtained:

1. Knowledge of the elderly at the Hargodedali Nursing Home is in the bad category (60%).
2. The incidence of tooth loss in the elderly at Hargodedali Panti is that the elderly have teeth that do not work (<20 teeth) in the oral cavity (77%).
3. There is a relationship between knowledge of oral health and tooth loss in the elderly at the Hargodedali Panti ( $p < 0.05$ ).

Based on the results of the research that has been done, the suggestions that can be given by researchers are as follows:

1. Advice for the elderly at the Hargodedali Nursing Home  
Dig more information about dental and oral health, so that it can increase knowledge about dental and oral health. Besides paying more attention to dental and oral health, it is hoped that it can maintain healthy teeth and can replace missing teeth with dentures.
2. Suggestions for staff at the Hargodedali Nursing Home  
Pay attention to health as a whole, not just general health. Provide counseling about dental and oral health so that it is expected to increase the knowledge of the elderly about dental and oral health.

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