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Early Detection Of Non-Communicable Diseases (Ncds) On The Health Status Of Periodontal Tissue And Treatment Needs In The Elderly Group In Padangsari Banyumanik Village, Semarang City

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ABSTRACT

Dental and oral disease is a disease that affects all age groups, both in children and adults, including the elderly. One of the health problems in the elderly is dental caries and periodontal disease. Dental and oral disease is a problem in Indonesia based on the 2004 Household Health Survey (SKRT), the prevalence rate of dental caries in Indonesia reached 90.05%. In a study, it was stated that periodontal disease can increase the risk of stroke by more than 50% at the age of 25-54 years, this is because bacteria in periodontal disease enter the blood vessels and follow the flow of capillaries to the brain. Other studies show that 95% of people over 65 years old have periodontal disease, and 70% of elderly people need periodontal care [1]. Efforts are made to overcome the problem of dental and oral diseases in the elderly by approaching health workers and dentists about the importance of dental and oral health. This can also be done by the formation of dental and oral health cadres who play a role in monitoring the dental health of the elderly in the activities of the elderly Posyandu [2]. Padangsari Village, Banyumanik District has an Elderly Posyandu which every month routinely carries out Elderly Posyandu activities with activities including routine general health checks, including blood pressure checks, uric acid checks, blood sugar checks, but for dental health, especially periodontal tissue, routinely has not been carried out. Dental examinations need to be done regularly in the elderly because one of the symptoms that arise in degenerative diseases can be monitored through the oral cavity. The general purpose of this study is to detect diseases that can manifest through the oral cavity through examinations, education in improving dental health maintenance and providing care needs to the elderly group in Padangsari Banyumanik Village, Semarang City. The results showed that, based on the Wilcoxon Signed Ranks Test on calculus scores before and after treatment in the elderly (N = 60), the values of Z = -6,751 and p = 0.000 (p < 0.05) were obtained. These results show that there is a very significant difference between the score before and after treatment. All respondents experienced a decrease in calculus scores after treatment, which indicated a positive effect of the intervention given.

Keywords : examination and treatment needs, Elderly

Introduction

Dental and oral disease is a disease that affects all age groups, both in children and adults, including the elderly. One of the health problems in the elderly is dental caries and periodontal disease [1]. Dental and oral diseases are still a problem in Indonesia because based on the 2004 Household Health Survey (SKRT), the prevalence rate of caries in Indonesia reached 90.05%. In a study it was stated that periodontal disease can increase the risk of stroke by more than 50% in people aged 25-54, this is because bacteria in periodontal disease can

enter the blood vessels and follow the flow of capillaries to the brain. The results of the study showed that 95% of dental patients over the age of 65 years had periodontal disease, and 70% of elderly patients needed periodontal treatment [1]. Efforts are made to overcome the problem of dental and oral diseases in the elderly by approaching health workers and dentists about the importance of dental and oral health. This can also be done by the formation of dental and oral health cadres who play a role in monitoring the dental health of the elderly in Posyandu Lansia activities [2,3]

Based on data and observations, in Padangsari village, Banyumanik District, there is a Elderly Posyandu which every month routinely carries out Elderly Posyandu activities with activities including routine general health checks, including blood pressure checks, heart checks, blood sugar checks, but for dental health, especially periondontal tissue, routinely has not been carried out. Dental examinations need to be done regularly in the elderly because one of the symptoms that arise in degenerative diseases can be monitored through the oral cavity. Important factors that can affect dental health in the elderly include lack of saliva production and the habit of cleaning teeth and mouth. Dental caries and periodontal disease are the main causes of tooth loss in the elderly [4]. Losing part or all of your teeth can have emotional, systemic, and functional impacts. Emotional impacts include: loss of confidence, feelings of sadness, depression, feeling of losing body parts, and feeling old. Systemic impacts are in the form of cardiovascular diseases, osteoporosis, and gastrointestinal diseases, such as ususophageal cancer, gastric cancer, and pancreatic cancer [5,6] The functional impact of tooth loss is speech disorders and chewing disorders. Lack of dental hygiene

can have implications for the entry of bacteria which leads to many common health problems such as heart disease and other diseases [7,8] Diseases in the oral cavity in the elderly can have negative consequences on the health and overall quality of life of the elderly. Some conditions that often occur in the oral cavity of the elderly: a) tooth loss; b) gum disease; c)dry mouth/xerostomia d) periodontitis [9]

Methods

The research method used is descriptive analytical. The descriptive analytical method is carried out on a set of objects that usually aim to see a picture of phenomena (including health) that occur within a given population. The approach used is cross sectional. The cross sectional approach is a study to study the dynamics of the correlation between risk factors and effects, by way of approach, observation or data collection at the same time (point time approach) [10] The sample in this study is a group of elderly people in RT 05 RW 16 Padangsari Village, Banyumanik District, Semarang City amounting to 60 people.

Results and Discussion

Table 1. Distribution of the frequency of respondent index calculus examination results before treatment in elderly respondents

Calculus Score	Calculation criteria	N	%
0-0,6	Good	8	13
0,7-1,8	Keep	15	25
1,9-3,0	Bad	37	62
Total		60	100

Table 2. Distribution of CPITN Examination Frequency in the Elderly Group

CPITN Score	Status Criteria Periodontal	N	%
0	healthy	8	13
1	Gingivitis	12	20
2	Tartar	25	42
3	Shallow Pockets	7	12
4	Deep pockets	8	13
	Total	60	100

Table 3 Status Criteria Periodontal and Treatments that have been given

Score CPITN	Status Criteria Periodontal	N	Treatments that have been given
0	healthy	8	Providing education on maintaining dental health, as well as demonstrating how to brush your teeth properly and correctly
1	Gingivitis	12	Education about gingivitis and the causes and ways to deal with gingivitis, gingivitis in respondents is caused by tartar that has entered the gingiva, so that in addition to the respondents' education, tartar cleaning treatments are also carried out

2	Tartar	25	Education about tartar problems and how to treat tartar. A total of 25 respondents have been given tartar cleaning treatments, where tartar cleaning treatment places are in accordance with the requests of each respondent who are given treatment at the care service clinic of the Department of Dental Health, some are carried out in ONTOE MLAKU activities and some are carried out at the health center.
3	Shallow Pockets	7	Providing education about maintaining dental health, as well as demonstrating how to brush teeth properly and correctly, as well as providing tartar removal treatment
4	Deep pockets	8	Providing education on maintaining dental health, as well as demonstrating how to brush teeth properly and correctly, as well as providing tartar cleaning treatments, as well as root planning. There was 1 respondent who made dentures which was carried out at the primary clinic of the Ministry of Health of Semarang
Sum		60	

Table 4 Distribution of Calculus Frequency Score after Respondents Were Treated in the Elderly

Calculus Score	Calculation criteria	N	%
0-0,6	Good	44	74
0,7-1,8	Keep	12	20
1,9-3,0	Bad	4	6
Total		60	100

Tabel 5. Tests of Normality

	Kolmogorov-Smirnova			Shapiro-Wilk		
	Statistics	Df	Sig.	Statistics	Df	Sig.
Score CI_after	.240	60	.000	.853	60	.000
Score CI_before	.274	60	.000	.880	60	.000

a. Lilliefors Significance Correction

Based on the normality test using Kolmogorov-Smirnov and Shapiro-Wilk on calculus scores before and after treatment, a significance value of $(p) < 0.05$ was obtained for both variables. This suggests that the data are not normally distributed, so follow-up analysis using non-parametric tests (such as Wilcoxon and Spearman) is appropriate.

Based on the Wilcoxon Signed Ranks Test on calculus scores before and after treatment in the elderly ($N = 60$), the values of $Z = -6,751$ and $p = 0.000$ ($p < 0.05$) were obtained. These results show that there is a very significant difference between the score before and after treatment. All respondents experienced a decrease in scores after treatment, which indicated a positive effect of the intervention given.

Dental and oral diseases, particularly periodontal disease, are common among Indonesians. Most dental and oral health problems are preventable. Oral health is not entirely dependent on a person's behavior. Various approaches can be used to reduce and prevent dental and oral diseases, including self-care, such as brushing your

teeth [11]. Tooth brushing behavior is a protective factor against periodontal disease. Statistically, there is a significant correlation between brushing behavior and the incidence of periodontal disease. One way to prevent tartar is thorough and regular brushing. It is recommended to brush your teeth twice a day for 2 minutes. If someone does it for 30 seconds, plaque will not be removed from the teeth. Preventing tartar is important because, if left untreated, it can cause various dental and oral health problems, such as gingivitis and bad breath. Dental and oral health in Indonesia is still a matter that requires serious attention from health professionals, both dentists and dental nurses. Respondents with shallow or deep periodontal pockets are affected by brushing methods. The combination method is a combination of several brushing movements, including horizontal, vertical, and circular movements. The combination of circular, horizontal, and vertical methods is the most effective brushing method [12,3].

Factors Affecting the Dental and Oral Health Status of the Elderly. The influence of systemic factors

and a number of diseases can affect the prognosis of dental and oral health, especially periodontal disease. These systemic diseases include [14,15]

a. Diabetes Mellitus

Most studies of diabetes mellitus have found a strong association between type 1 and 2 diabetes and periodontal disease, as it is known that diabetes mellitus can reduce resistance to infection and inhibit the healing process [16]. Patients with diabetes, especially those with poorly controlled diabetes, will have a worse overall prognosis compared to patients with well-controlled diabetes or non diabetics. Besides damaging white blood cells, periodontitis also causes thickening of the blood vessels, which slows the flow of nutrients and waste products from the body. This slowed blood flow reduces the body's ability to fight infection.

b. Kidneys

As a person ages, they experience numerous declines in their organ systems. This systemic disease becomes a concern for many elderly people. The fear of kidney disease threatens mental health causes many people to consider dental and oral health as if it is less important. Many diseases originate from dental and oral health, including kidney disease, which is a common health problem in the community, but most sufferers are unaware of the symptoms of this disease in their bodies [17]

c. Stress

Many periodontologist believe that stress can negatively impact periodontal prognosis. A recent meta-analysis of the literature shows that psychological stress can exacerbate periodontal disease, thereby worsening the overall prognosis.

d. Heart Disorders

The entire human body, including the heart, undergoes the aging process. The heart of an elderly person differs from that of a young person, both in direction and rate, with symptoms of palpitations, shortness of breath, leg swelling and shortness of breath. Oral hygiene in the elderly is influenced by various interacting factors that can influence the speed and progression of disorders in the mouth. Decreased function of various Due to the presence of organ damage, the elderly will pay more attention to their physical health than to their dental and oral health. The elderly tend to neglect their oral hygiene and dental check-ups [18] Factors that influence the dental and oral health status of the elderly are:

1) Internal factors

Gender, age, lifestyle related to a healthy lifestyle, education, occupation, marital status, housing, and economic status can affect oral hygiene [19]

2) Family factors

Number of generations, living patterns, knowledge, attitudes, and family practices in maintaining dental and oral health in the elderly.

3) Environmental factors

Sociocultural and environmental factors or conditions within the mouth, such as: lack of

saliva production, dental and oral hygiene habits, food consumption, and the availability of dental and oral health facilities and infrastructure. Preventing tooth decay in the elderly

The elderly often neglect dental hygiene [20]

Conclusion

There was an increase in the status of periodontal tissue after education and treatment was carried out in the elderly group at the elderly posyandu in Padangsari village, Banyumanik District, Semarang City.

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