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**PROSTHODONTIC TREATMENT IN THE ELDERLY,
 WHAT DENTISTS KNOW**

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ABSTRACT

Background: Tooth loss is most experienced by the elderly population. The number of elderly people is increasing in Indonesia in direct proportion to the increase in cases of tooth loss. Tooth loss can be treated with prosthodontic treatment performed by dentists, so dentists need to have sufficient knowledge and skills. **Objectives:** To get an overview of the knowledge of dentists who graduated from the Faculty of Dentistry, Trisakti University in 2017-2019 regarding prosthodontic treatment in the elderly. **Methods:** This study uses a descriptive observational method with a cross-sectional type. The measuring tool uses a questionnaire via google form containing 25 questions adopted from foreign journals with similar research that was tested for validity and reliability. After being tested, 21 valid and reliable questions were filled by 89 respondents. Data collection is carried out online and the data is presented in the form of a frequency distribution. **Results:** The highest average score (mean) obtained was 41, while the lowest average score (mean) obtained was 29. The average score (mean) that most respondents obtained was 39 with the average value (mean) of respondents 92.86%. **Conclusion:** The average score (mean) obtained is 37.12 with a maximum score of 42. The average value (mean) of respondents is 88.38%. Dentist's knowledge of prosthodontic treatment in the elderly is good.

Keywords: Dentist, Elderly, Knowledge, Prosthodontics

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INTRODUCTION

An elderly person is someone who is over 60 years old.¹ Based on data from the Central Statistics Agency, the percentage of elderly people in Indonesia in 2019 reached 9.6% or around 25.64 million people with a life expectancy of 69.67 for men and 73.55 for women in 2021.³ According to calculations by the World Health Organization (WHO), in 2025 Indonesia will experience an increase in the number of elderly by 41.4%, which is the highest increase in the world.⁴ This shows that the number of elderly people continues to increase every year.

Tooth loss is usually caused by several things including trauma, caries, periodontal and iatrogenic diseases. Tooth loss causes disruption to an individual's quality of life, especially affecting their well-being, appearance and nutritional status.⁵ Based on Basic Health Research (RISKESDAS) in 2018, it is known that lack of dental and oral health has resulted in an increase in the percentage of tooth loss in

Indonesia which reached 19%, with the proportion aged 55-64 years reaching 29% and those aged over 65 years reaching 30.6%.⁶ The information above shows the urgency of carrying out appropriate prosthodontic treatment for the elderly.⁷

The increasing need for prosthodontic care for the elderly needs to be balanced with appropriate dental health services through adequate health facilities and appropriate knowledge and competence by health service providers, in this case dentists. However, a recent American survey showed that nearly 20 percent of dental graduates are not prepared to provide care for the elderly.⁸ At undergraduate level there is still a lack of training and knowledge about socio-economic, physical, psychological problems and various complexities in treating elderly patients with systemic diseases.⁹ This lack of knowledge can have detrimental consequences in providing oral health care services to this population.¹⁰

So far Indonesia has been quite good at anticipating the increase in the number of elderly people. Indonesia has Law 13/1998 concerning the Welfare of the Elderly and Presidential Regulation 88/2021 concerning the National Strategy for Aging as a normative foundation for efforts to improve the welfare of the elderly population at a more technical level. Efforts have been made in Indonesia to improve health services for the elderly, including geriatric services in hospitals, health services in community health centers, the establishment of home care for elderly people with special needs, and the existence of Integrated Healthcare Center (Posyandu) for the Elderly or Integrated Guidance Pos (Posbindu).¹⁰ Meeting the need for an adequate level of knowledge and efforts to meet the care needs of the elderly population can be beneficial for improving their health.⁸

The need for dental and oral care for the elderly in the field of prosthodontics in Indonesia is also increasing. Therefore, a dentist is also needed who is ready and able to provide targeted treatment. Dentists need to have knowledge of basic prosthodontic treatment needs. In Indonesia there has been no similar research, Indonesia has a different curriculum and culture compared to other countries. Trisakti University as one of the education providers for dentists in Indonesia is a science-based educational institution with a total of 6795 dentist graduates which is 13.7% of the total dentists in Indonesia¹¹, so this is the background for researchers to conduct research regarding the description of the knowledge of dentists who graduated from the Faculty of Dentistry, Trisakti University in 2017-2019 regarding prosthodontic treatment in the elderly. This study aims to obtain an overview of the knowledge of dentists who graduated from the Faculty of Dentistry, Trisakti University in 2017-2019 regarding prosthodontic treatment in the elderly.

METHODS

This type of research is descriptive observational with a cross-sectional type. This research received permission from the Ethics Commission of the Faculty of Dentistry, Trisakti University on August 4 2022 with Number 609/S1/KEPK/FKG/8/2022. The measuring instrument used is a questionnaire. The population of this study were dentists who graduated from the Faculty of Dentistry, Trisakti University. Sampling used purposive sampling technique, the total sample was 89 dentists whose inclusion criteria were dentists who graduated from the Faculty of Dentistry,

Trisakti University in 2017-2019 who had practiced for 3-5 years inside or outside Jakarta, dentists who had STR and SIP, and those who are willing to become questionnaire respondents by agreeing to the informed consent given and being cooperative, while the exclusion criteria are dentists who graduated from the Faculty of Dentistry, Trisakti University in 2017-2019 who do not practice as dentists. First, the questionnaire was filled out by 30 dentists who did not graduate from the Faculty of Dentistry, Trisakti University in 2017-2019, which is a population that resembles the population aimed at taking this research, then tested for validity and reliability. After that, a valid and reliable questionnaire was filled in by 89 dentists according to the inclusion criteria.

The variables in this study were sociodemographic factors (gender, age, year of graduation, academic degree, and practice institution), number of elderly patients, and dentist's knowledge regarding prosthodontic treatment in the elderly. Data analysis was carried out using the SPSS application to carry out validity and reliability tests. The results of the research data are presented in the form of a distribution in the form of frequencies or percentages.

RESULTS

Based on the results of the validity and reliability test of the questionnaire, of the 25 questions tested there were 21 questions that were valid and reliable. The results of the validity and reliability tests can be seen in Table 1 and Table 2.

Table 1. Questionnaire Validity Test

Question Items	R table (df=30-2=28, α=0.05)	R count	Annotation
P1	0.361	0.603	Valid
P2	0.361	0.598	Valid
P3	0.361	0.795	Valid
P4	0.361	0.464	Valid
P5	0.361	0.770	Valid
P6	0.361	0.454	Valid
P7	0.361	0.363	Valid
P8	0.361	-0.010	Invalid
P9	0.361	0.546	Valid
P10	0.361	-0.010	Invalid
P11	0.361	-0.015	Invalid
P12	0.361	0.812	Valid
P13	0.361	0.530	Valid
P14	0.361	0.451	Valid
P15	0.361	0.762	Valid
P16	0.361	0.572	Valid
P17	0.361	0.340	Invalid
P18	0.361	0.651	Valid
P19	0.361	0.498	Valid
P20	0.361	0.546	Valid
P21	0.361	0.572	Valid
P22	0.361	0.572	Valid
P23	0.361	0.501	Valid
P24	0.361	0.385	Valid
P25	0.361	0.812	Valid

Table 2. Questionnaire Reliability Test

<i>Cronbach's Alpha</i>	Annotation
0.897	Reliable

Based on the results of research conducted on 89 dentists who graduated from the Faculty of Dentistry, Trisakti University in 2017-2019, the level of knowledge for each category was obtained as follows.

Knowledge categories by gender

Table 3. Knowledge categories by gender

Gender	Frequency	Average
Female	59	37.29
Men	30	36.80

Knowledge categories based on gender

can be seen in Table 3. The highest average (mean) score was obtained by the female group with a score of 37.29, while the lowest average (mean) score was obtained by the male group with a score of 36.80.

Knowledge categories by age

Table 4. Knowledge categories by ages

Age	Frequency	Average
27	4	36.50
28	15	37.40
29	28	37.04
30	22	37.91
31	7	37.43
32	7	35.86
33	2	34.50
34	3	35.33
35	1	38.00

Knowledge categories based on gender can be seen in Table 4. The highest average (mean) score was obtained by the 35 age group, namely with a score of 38.00, while the lowest average (mean) score was obtained by the 33 year old group with a score of 34.50.

Knowledge categories based on graduation year

Table 5. Knowledge categories based on graduation year

Graduation year	Frequency	Average
2017	21	37.43
2018	38	37.29
2019	30	36.70

Knowledge categories based on year of graduation can be seen in Table 5. The highest average (mean) score was obtained by the group with the 2017 graduation year, namely with a score of 37.43, while the lowest average (mean) score was obtained by the group with the 2019 graduation year with a score 36.70.

Knowledge categories based on academic degrees

Table 6. Knowledge categories based on academic degrees

Academic Degree	Frequency	Average
General Dentist	72	36.97
Specialist Dentist	4	38.50
Resident	13	37.54

Knowledge categories based on academic degrees can be seen in Table 6. The highest average (mean) score was obtained by the specialist dentist group, namely with a score of 38.50, while the lowest average (mean) score was obtained by the general dentist group with a score of 36.97.

Knowledge categories based on practice institutions

Table 7. Knowledge categories based on practice institutions

Practice Institute	Frequency	Average
Private Hospital	5	38.60
Government Hospital	4	37.25
Public Health Center	10	36.60
Private Clinic	29	37.07
Joint Clinic	41	37.10

Knowledge categories based on practice institutions can be seen in Table 7. The highest average (mean) score was obtained by the private hospital practice institution group, namely with a score of 38.60, while the lowest average (mean) score was obtained by the community health center practice institution group with a score 36.60.

Knowledge category is based on the number of elderly patients in 1 month

Table 8. Knowledge category is based on the number of elderly patients in 1 month

Number of Elderly Patients in 1 Month	Frequency	Average
Less than 10	63	37.22
10 - 20	19	36.63
More than 20	7	37.57

Knowledge categories based on the number of elderly patients in 1 month can be seen in Table 8. The highest average (mean) score was obtained by the group with more than 20 elderly patients in 1 month, namely with a score of 37.57, while the average score (mean) The lowest was obtained by the group with 10-20 elderly patients in 1 month with a score of 36.63.

DISCUSSION

Based on the data obtained, the average score (mean) of the knowledge variable obtained was 37.12. This proves that the average value (mean) of respondents is 88.38%.

Based on gender category, the average score (mean) of the female group is higher than the male group. These results are different from research conducted by Bahareh Tahani in Iran in 2021 regarding the knowledge, attitudes and practices of dentists towards providing care to geriatric patients. In this study, male dentists had better knowledge than female dentists.¹² However, the differences in the average (mean) scores obtained based on gender in these two studies were not significant.

Based on the year of graduation, the highest average (mean) score was obtained by the group with the 2017 graduation year, while the lowest average (mean) score was obtained by the group with the 2019 graduation year. However, in this study the difference in the average (mean) score obtained based on year of graduation is not significant. The average score (mean) of respondents with a graduation year of 2017-2019 who have been practicing for 3-5 years is 37.12 out of a maximum score of 42, while research by Bahareh Tahani in Iran in 2021 shows that respondents who graduated in less than 5 years have sufficient knowledge with an average score (mean) of 13.9 out of a maximum score of 30. The difference in scores in these two studies could be due to differences in culture, culture and dental education curriculum in Indonesia and Iran. This is

emphasized by research conducted at dental schools in Iran which revealed that the course time and educational time allocated for geriatrics education is insufficient.¹²

Based on academic degrees, the highest average (mean) score was obtained by the specialist dentist group, while the lowest average (mean) score was obtained by the general dentist group. This indicates that in this study the knowledge of specialist dentists was better than that of general dentists. These results are supported by research by Hajer Abdulhafid Derbi in Australia in 2016 that general dentists have limited knowledge and competence in providing care compared to specialist dentists. This could be due to more formal education levels being passed by specialist dentists so that they have better knowledge than general dentists.¹⁴

Data obtained based on practice institutions states that the group of dentists who practice in private hospitals have the highest average (mean) scores. The lowest average (mean) score was obtained by the group of dentists who practiced at community health centers. This indicates that dentists who practice in private hospitals have better knowledge than the group of dentists who practice in community health centers. However, the majority of dentists who practice in private hospitals have less than 10 elderly patients in 1 month, while the majority of dentists who practice in community health centers have 10-20 elderly patients in 1 month. These results are different from research by Daria Madunic et al in Croatia in 2021. In this study, dentists with more elderly patients had better knowledge than dentists with fewer elderly patients.¹⁴

When viewed based on the number of elderly patients in 1 month, the highest average (mean) score was obtained by the group with more than 20 elderly patients. The lowest average (mean) score was obtained by the group with 10-20 elderly patients. These results are in accordance with research by Daria Madunic et al in Croatia in 2021. In this study, dentists with a larger number of elderly patients had better knowledge than dentists with a smaller number of elderly patients. This is due to the greater experience that dentists have with a larger number of elderly patients.¹⁴

The average score (mean) of the data obtained is 37.12 with a maximum score of 42. This proves that the average score (mean) of respondents is 88.38%. Then the highest score obtained by respondents was 39 with the maximum score being 42. This proves that the majority of respondents had an average score

(mean) of 92.86% answering questions correctly. A study by Bahareh Tahani in Iran in 2021 regarding the knowledge, attitudes and practices of dentists towards providing care to geriatric patients showed that the group of dentists who had graduated for less than 5 years had a sufficient level of knowledge with an average score (mean) of 13.9 with a maximum score of 30. From these results, the average score (mean) in this study was 46.33%.¹³ Based on the results of the research conducted, it can be concluded that the level of knowledge of dentists who graduated from the Faculty of Dentistry, Trisakti University in 2017-2019 regarding prosthodontic treatment for the elderly mostly had scores above average so they were categorized as good.

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