



The Relationship Between Elderly Knowledge and Attitudes Regarding Oral and Dental Health and the Incidence of Dental Caries

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ARTICLE INFORMATION	ABSTRACT
<i>Article History:</i> <i>Received: September 25, 2025</i> <i>Revised: November 25, 2025</i> <i>Published: November 30, 2025</i> Keywords: Knowledge Attitude Dental Caries Elderly	Oral and dental health is closely related to overall health, particularly among the elderly. Dental caries is a common oral health problem in older adults and is often associated with inadequate knowledge and negative attitudes toward oral hygiene. This study aimed to determine the relationship between elderly knowledge and attitudes regarding oral and dental health and the incidence of dental caries at Panti Werdha Hargo Dedali Surabaya. This analytical cross-sectional study involved 33 elderly respondents. Data were collected using questionnaires to assess knowledge and attitudes, while dental caries was measured using the DMF-T index. Spearman's correlation test was used for data analysis. The results showed a significant relationship between elderly knowledge and dental caries ($\rho = 0.001$; $p < 0.05$) and between elderly attitudes and dental caries ($\rho = 0.001$; $p < 0.05$). In conclusion, knowledge and attitudes regarding oral and dental health are significantly associated with the incidence of dental caries among the elderly at Panti Werdha Hargo Dedali Surabaya.

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INTRODUCTION

Oral and dental health is a major indicator of overall health, well-being, and quality of life. According to the World Health Organization (WHO), oral health is defined as a condition in which the oral cavity is free from oral diseases and throat cancer, oral infections and sores, periodontal disease, and other disorders that limit an individual's psychosocial well-being, ability to smile, speak, bite, and chew (Marthinu & Bidjuni, 2020). This definition emphasizes the essential role of oral health in maintaining both physical and psychosocial functioning throughout the lifespan.

However, oral and dental health is often not considered a primary priority by many individuals. In fact, the teeth and oral cavity serve as gateways for germs and bacteria that may adversely affect other organs of the body (Anang & Robbihi, 2021). Oral and dental health in the elderly is particularly important because it is closely related to general health in later life. One of the most common oral health problems experienced by older adults is dental caries, which remains highly prevalent among the elderly population (Sari & Jannah, 2021).

National data from the 2018 Basic Health Research (Riskesdas) reported that 57.6% of the Indonesian population experienced oral and dental health problems, with a national DMF-T index of 7.1. In East Java, the prevalence was even higher, reaching 72.2%. Among the elderly population (>65 years), the average DMF-T index reached 16.8, indicating that each elderly individual had approximately 16–17 teeth affected by caries. These findings demonstrate that the burden of dental caries among the elderly in Indonesia remains very high (Badan Penelitian dan Pengembangan Kesehatan, 2019).

Elderly individuals are defined as those aged 60 years and above who possess equal rights in social, national, and civic life. The aging process significantly affects three main aspects of life: biological aspects characterized by decreased physical resilience and increased susceptibility to disease, economic aspects related to changes in employment and financial capacity, and social aspects that influence social roles and interactions (Akbar et al., 2021). Aging also leads to various changes in oral conditions, such as tooth attrition, narrowing of the pulp chamber, and gingival recession, which increase susceptibility to dental caries and accelerate tooth loss. Elderly individuals generally have poorer oral health compared to younger populations due to limited awareness and insufficient knowledge, often resulting from reduced access to education. Poor oral hygiene, plaque accumulation, and unmanaged chronic conditions further contribute to unfavorable oral health outcomes among the elderly (Sari & Putri, 2021).

Previous studies have reported a very high severity of dental caries among the elderly in several cities in Indonesia. A study by Auli et al. (2021) involving 340 elderly participants found an average DMF-T score of 17, indicating severe caries experience, largely attributed to inadequate oral and dental health maintenance. Similarly, insufficient knowledge, awareness, and concern regarding oral health have been identified as major contributing factors to dental caries among the elderly (Auli et al., 2021; Sari & Jannah, 2021). Preliminary observations conducted on February 12, 2024, at Panti Werdha Hargo Dedali Surabaya revealed a very high average DMF-T score of 16.1 among seven elderly individuals, with most participants having fewer than 20 functional teeth and poor oral hygiene status. Although national and regional data highlight the high prevalence of dental caries among the elderly, limited studies have specifically examined the relationship between knowledge and attitudes toward oral and dental health and dental caries among institutionalized elderly populations at the local level. Therefore, the novelty of this study lies in its focus on analyzing both knowledge and attitudes as determinants of dental caries among elderly residents in a nursing home setting. This study aims to determine the relationship between elderly knowledge and attitudes regarding oral and dental health and the incidence of dental caries at Panti Werdha Hargo Dedali Surabaya.

METHOD

This study employed an analytical research design with a cross-sectional approach. The study aimed to examine the relationship between elderly individuals' knowledge and attitudes regarding oral and dental health and the incidence of dental caries at Panti Werdha Hargo Dedali Surabaya in 2024. The research was conducted at Panti Werdha Hargo Dedali Surabaya, located at Jl. Manyar Kartika IX/22–24, Menur Pumpungan, Sukolilo District, Surabaya City, East Java, Indonesia. Data collection was carried out from July to August 2024.

The study population consisted of 35 elderly individuals aged 60 years and above residing at Panti Werdha Hargo Dedali Surabaya. The sample included 33 elderly participants who met the inclusion criteria and were selected using a total sampling technique. The inclusion criteria were elderly individuals aged ≥ 60 years who were willing to participate and able to communicate effectively, while those with severe cognitive impairment or serious systemic illness were excluded from the study.

Data were collected using structured questionnaires to assess respondents' knowledge and attitudes regarding oral and dental health. The incidence of dental caries was assessed through direct oral examination using the Decayed, Missing, and Filled Teeth (DMF-T) index, recorded on an observation sheet. The examinations were conducted by trained personnel following standard oral health assessment procedures.

Data analysis was performed using Spearman's correlation test with a significance level of $\alpha = 0.05$ to determine the relationship between elderly knowledge and attitudes regarding oral and dental health and dental caries. A statistically significant relationship was considered present when the p-value (p) was less than 0.05. This study received ethical approval from the Health Research Ethics Committee of the Politeknik Kesehatan Kemenkes Surabaya (No. EA/2979/KEPK-Poltekkes_Sby/V/2024).

RESULTS AND DISCUSSION

Table 1. Distribution of Gender and Age of Elderly Residents at Panti Werdha Hargo Dedali Surabaya, 2024.

Characteristics	Frequency (n)	Percentage (%)
Gender		
Female	26	78.8
Male	7	21.2
Total	33	100
Age Group (years)		
60–70	13	39.4
71–80	13	39.4
81–90	7	21.2
Total	33	100

Table 1 shows that the majority of respondents were female (78.8%), while males accounted for 21.2% of the sample. Regarding age distribution, most elderly participants were aged 60–70 years and 71–80 years, each comprising 39.4% of the sample, whereas 21.2% were aged 81–90 years. This indicates that the study population was predominantly female and mainly within the early to middle elderly age groups.

Table 2. Distribution of Knowledge, Attitudes, and Dental Caries Categories Among the Elderly at Panti Werdha Hargo Dedali Surabaya, 2024.

Variable	Category	Frequency (n)	Percentage (%)
Oral and Dental Health Knowledge	Good	4	12.1
	Moderate	5	15.1
	Poor	24	72.8
	Total	33	100
Oral and Dental Health Attitudes	Very Positive	4	12.1
	Positive	5	15.1
	Negative	24	72.8
	Very Negative	0	0
	Total	33	100
Dental Caries Status	Very Low	0	0
	Low	0	0
	Moderate	0	0
	High	8	26.2
	Very High	25	73.8
	Total	33	100

Table 2 indicates that the majority of elderly respondents had poor knowledge of oral and dental health (72.8%), while only 12.1% demonstrated good knowledge. Similarly, most respondents exhibited negative attitudes toward oral and dental health (72.8%), with a smaller proportion showing positive or very positive attitudes. In terms of dental caries status, none of the respondents fell into the very low, low, or moderate categories. Most elderly participants were classified as having very high dental caries (73.8%), while the remaining 26.2% had high dental caries. These findings suggest a concerning pattern of limited knowledge and negative attitudes accompanied by a high prevalence of dental caries among the elderly.

Table 3. Relationship Between Elderly Knowledge of Oral and Dental Health and Dental Caries at Panti Werdha Hargo Dedali Surabaya, 2024.

Variables	Spearman's Correlation	Significance Level (α)
Elderly Knowledge – Dental Caries	$\rho = 0.001$	0.05

Table 3 shows the results of Spearman's correlation analysis, which revealed a p-value (ρ) of 0.001, lower than the significance level of 0.05. This indicates a statistically significant relationship between elderly knowledge of oral and dental health and dental caries. Therefore, the null hypothesis (H_0) was rejected, and the alternative hypothesis (H_1) was accepted, suggesting that the level of knowledge is significantly associated with dental caries among the elderly.

Table 4. Relationship Between Elderly Attitudes Toward Oral and Dental Health and Dental Caries at Panti Werdha Hargo Dedali Surabaya, 2024.

Variables	Spearman's Correlation	Significance Level (α)
Elderly Attitudes – Dental Caries	$\rho = 0.001$	0.05

Table 4 presents the results of Spearman's correlation analysis between elderly attitudes toward oral and dental health and dental caries. The p-value obtained was 0.001, which is lower than the significance level of 0.05. This finding indicates a statistically significant relationship between attitudes and dental caries among the elderly. Consequently, the null hypothesis (H_0) was rejected, and the alternative hypothesis (H_1) was accepted, demonstrating that elderly attitudes toward oral and dental health are significantly associated with dental caries at Panti Werdha Hargo Dedali Surabaya.

DISCUSSION

The findings of this study indicate that the level of oral and dental health knowledge among elderly residents at Panti Werdha Hargo Dedali Surabaya in 2024 was predominantly categorized as poor. Most respondents were unable to correctly answer basic questions related to the definition of oral and dental health and its importance. This finding is consistent with the study by Muhida et al. (2021), which reported that elderly individuals generally have limited understanding of oral health concepts and the importance of maintaining dental hygiene. Insufficient knowledge in this area contributes to low awareness and inadequate preventive behavior among older adults.

Limited understanding was also observed in relation to the use of dental floss. Many elderly respondents were unfamiliar with dental floss and instead relied on toothpicks to remove food debris between teeth. This finding aligns with Chisnoiu et al. (2022), who reported that only a small proportion of respondents used dental floss and that most were unaware of its benefits. In addition, knowledge regarding the consequences of tooth loss was generally poor. Almost all respondents were unaware that tooth loss could negatively affect nutritional status. Ramadhana et al. (2024) reported that tooth loss leads to impaired chewing ability and bolus formation, causing elderly individuals to avoid hard foods such as meat and fruits, which are important sources of protein and vitamins. This avoidance may reduce food intake and increase the risk of malnutrition, including underweight conditions.

Another important finding was the lack of knowledge regarding appropriate timing for dental check-ups. Many respondents believed that visiting a dentist was only necessary when experiencing tooth pain. This perception is consistent with Ramadhana et al. (2023), who noted that individuals often seek dental care only when pain becomes severe. Furthermore, knowledge related to proper oral hygiene practices remained inadequate. Although tooth brushing is a fundamental practice, many elderly respondents brushed their teeth only during morning and evening bathing, and some only once a day. This finding is in line with Sari and Jannah (2021), who emphasized that proper oral hygiene behavior among the elderly is strongly influenced by habitual practices, such as brushing teeth twice daily after breakfast and before bedtime.

Misconceptions regarding the causes of dental caries were also evident, with several respondents believing that caries were caused by worms inside the teeth. This belief reflects traditional misconceptions that persist in some communities. Age-related differences in knowledge were observed, with elderly individuals aged 60–80 years demonstrating better oral health knowledge than those aged 81–90 years. This may be attributed to cognitive decline associated with aging, although Darsini et al. (2019) argued that aging may also enhance certain cognitive processes depending on individual experiences and learning patterns.

The limited knowledge of oral and dental health among the elderly contributes directly to inadequate preventive behavior and an increased risk of dental caries. According to Lawrence Green's behavioral theory (1980) cited in Notoatmodjo (2018), knowledge is a predisposing factor that influences health-related behavior. Individuals with higher knowledge levels tend to show greater concern for oral health, while low knowledge is associated with poor oral hygiene practices (Rizanur et al., 2022). In this study, limited access to information and the lack of regular oral health education were major contributing factors to poor knowledge levels. Health workers therefore play a critical role in improving elderly knowledge through promotive and preventive programs, particularly oral health education (Muhida et al., 2021).

In terms of attitudes, the results revealed that most elderly respondents demonstrated negative attitudes toward oral and dental health. Many respondents disagreed with the use of dental floss and did not recognize its function, which is consistent with the findings of Chisnoiu et al. (2022). Additionally, a significant proportion of respondents did not believe that dental caries could act as a source of infection affecting general health, suggesting a lack of understanding of the systemic impact of oral diseases. This finding contradicts Sari and Jannah (2021), who emphasized the close relationship between oral health and overall health among the elderly.

Negative attitudes were also reflected in perceptions regarding tooth mobility and fluoride toothpaste use. Many respondents believed that loose teeth were a normal and unavoidable part of aging, without recognizing the role of poor oral health in this condition. Moreover, most respondents were unaware of the benefits of fluoride in preventing dental caries, which contrasts with the findings of Al-Zain et al. (2023), who highlighted the importance of positive attitudes toward fluoride toothpaste use. Dental service utilization was also low, as most elderly individuals did not attend routine dental check-ups every six months. Instead, they tended to self-medicate and seek dental care only when pain became unbearable, consistent with Nzalboniman et al. (2024).

Despite some positive attitudes toward tooth brushing and reducing sugary food intake, many elderly respondents lacked understanding of proper brushing timing. Most believed that brushing after bathing in the morning and evening was sufficient, reflecting findings from the 2018 Riskesdas report (Badan Penelitian dan Pengembangan Kesehatan, 2019). Age and educational level were found to influence attitudes, with younger elderly individuals (60–70 years) showing more positive attitudes, consistent with Liza and Dibba (2020) and Nora et al. (2023). Attitudes, as noted by Namira et al. (2021), serve as a predisposing factor for behavior but require enabling factors such as facilities and social support to be translated into action.

The prevalence of dental caries among elderly residents at Panti Werdha Hargo Dedali Surabaya was categorized as very high. This finding is consistent with previous studies reporting severe caries experience among elderly populations (Riani et al., 2022; Talumbanua, 2019). According to WHO criteria, a DMF-T score ≥ 6.6 is classified as very high (Rizanur et al., 2022), and national data from the Health Research and Development Agency, Ministry of Health of the Republic of Indonesia (2019) reported an average DMF-T score of 16.8 among the elderly. Dental caries remains a global problem affecting individuals across all age groups and socioeconomic backgrounds (Marthinu & Bidjuni, 2020), with older adults particularly vulnerable due to physiological changes, poor oral hygiene, periodontal disease, and nutritional factors.

The significant relationship between elderly knowledge and dental caries observed in this study supports findings by Kartika et al. (2024) and Sijabat et al. (2020), which demonstrated that knowledge influences oral hygiene behavior and caries status. However, this finding

contrasts with studies by Riani et al. (2022), Maryanto, and Turnip (2022), which found no significant association. Differences in study populations, health conditions, and access to dental education may explain these discrepancies. Notably, some elderly individuals in this study had adequate knowledge but still exhibited high caries levels, suggesting that knowledge alone is insufficient without corresponding attitudes and behaviors (Rizanur et al., 2022).

Similarly, a significant relationship was found between elderly attitudes toward oral health and dental caries. Negative attitudes were associated with higher caries prevalence, consistent with Purba (2023) and Khulwani et al. (2021). However, this finding differs from Sijabat et al. (2020), possibly due to differences in attitude classification and behavioral readiness. Even among elderly individuals with positive attitudes, caries prevalence remained high, reinforcing the notion that attitudes do not always translate into behavior without sufficient motivation, habit formation, and access to dental care (Riani et al., 2022; Liza & Diba, 2020).

Overall, the findings highlight the complex interaction between knowledge, attitudes, behavior, and biological factors in determining oral health outcomes among the elderly. Improving oral health among institutionalized elderly populations requires a comprehensive approach that includes education, attitude change, habit modification, and improved access to dental services. Tailored oral health promotion programs that consider the physical and psychological conditions of the elderly are essential to foster positive attitudes and sustainable oral health behaviors, ultimately reducing the burden of dental caries in this vulnerable population.

CONCLUSION

This study concludes that the level of oral and dental health knowledge among elderly residents at Panti Werdha Hargo Dedali Surabaya in 2024 was predominantly classified as poor. In addition, the majority of elderly participants demonstrated negative attitudes toward oral and dental health. The prevalence of dental caries among the elderly population in this institution was found to be very high. Statistical analysis revealed a significant relationship between elderly knowledge of oral and dental health and the incidence of dental caries. Furthermore, a significant association was identified between elderly attitudes toward oral and dental health and dental caries occurrence at Panti Werdha Hargo Dedali Surabaya.

Based on these findings, future research is recommended to employ larger sample sizes and multi-center study designs to improve the generalizability of results. Longitudinal or experimental studies are also suggested to assess causal relationships between knowledge, attitudes, oral health behaviors, and dental caries among the elderly. Additionally, future studies should consider including other influential factors such as oral hygiene practices, dietary patterns, access to dental services, systemic health conditions, and caregiver support. The development and evaluation of targeted oral health education and preventive intervention programs for institutionalized elderly populations are strongly recommended to reduce the burden of dental caries and improve overall oral health outcomes..

REFERENCES

- Akbar, F., Darmialti, D., Arfan, F., & Putri, A. A. Z. (2021). Pelatihan dan pendampingan kader posyandu lansia di Kecamatan Wonorejo. *Jurnal Abdidias*, 2(2), 392–397. <https://doi.org/10.31004/abdidias.v2i2.282>
- Al-Zain, A. O., Fakhry, L. M., Tallab, R. A., & Natto, Z. S. (2023). Attitude, practice, and knowledge regarding fluoridated toothpaste, brushing, and rinse usage among residents of Jeddah City in Saudi Arabia. *Patient Preference and Adherence*, 17, 23–39. <https://doi.org/10.2147/PPA.S389413>
- Anang, A., & Robbihi, H. I. (2021). Hubungan pengetahuan dengan perilaku kesehatan gigi dan mulut. *Jl-KES (Jurnal Ilmu Kesehatan)*, 4(2), 55–59. <https://doi.org/10.33006/ji-kes.v4i2.176>
- Auli, I., Mulyanti, S., Insanuddin, I., & Supriyanto, I. (2021). Gambaran kondisi kesehatan gigi dan mulut pada lansia di beberapa kota Indonesia. *Jurnal Kesehatan Siliwangi*, 1(1), 79–85. <https://doi.org/10.34011/jks.v1i1.637>

- Badan Penelitian dan Pengembangan Kesehatan. (2019). *Laporan Nasional Riskesdas 2018*. Jakarta: Badan Penelitian dan Pengembangan Kesehatan.
- Chisnoiu, R. M., Delean, A. G., Muntean, A., Rotaru, D. I., Chisnoiu, A. M., & Cimpean, S. I. (2022). Oral health-related knowledge, attitude, and practice among patients in rural areas around Cluj-Napoca, Romania. *International Journal of Environmental Research and Public Health*, 19(11), 6887. <https://doi.org/10.3390/ijerph19116887>
- Darsini, Fahrurrozi, & Cahyono, E. A. (2019). Pengetahuan: Artikel review. *Jurnal Keperawatan*, 12(1), 95-107. Retrieved from: <https://ejournal.lppmdianhusada.ac.id/index.php/jk/article/view/96>
- Kartika, T., Kristiani, A., & Robbihi, H. I. (2024). Hubungan pengetahuan dan perilaku pemeliharaan kesehatan gigi dan mulut dengan pengalaman karies pada lansia di Posyandu Lansia Desa Sodonghilir Kabupaten Tasikmalaya. *Jurnal Ilmiah Keperawatan Gigi*, 5(1), 16–21. <https://doi.org/10.37160/jikg.v5i1.427>
- Khulwani, Q. W., Nasia, A. A., Nugraheni, A., & Utami, A. (2021). Hubungan pengetahuan, sikap, dan perilaku kesehatan gigi dan mulut terhadap status karies siswa SMP Negeri 1 Selogiri, Wonogiri. *e-GiGi*, 9(1), 41–44. <https://doi.org/10.35790/eg.9.1.2021.32570>
- Liza, L., & Diba, F. (2020). Pengetahuan, sikap, dan tindakan orang tua terhadap kesehatan gigi dan mulut. *JIM FKep*, 4(1), 185–191.
- Marthinu, L. T., & Bidjuni, M. (2020). Penyakit karies gigi pada personil detasemen gegana satuan Brimob Polda Sulawesi Utara tahun 2019. *JIGIM (Jurnal Ilmiah Gigi dan Mulut)*, 3(2), 58–64. <https://doi.org/10.47718/jgm.v3i2.1436>
- Maryanto, R.Y., & Turnip, D.H. (2022). Tingkat pengetahuan kesehatan gigi terhadap kejadian karies gigi pada mahasiswa Fakultas Kedokteran Universitas Kristen Indonesia angkatan 2019. *EduMatSains: Jurnal Pendidikan, Matematika dan Sains*, 6(2), 293–302. <https://doi.org/10.33541/edumatsains.v6i2.3546>
- Muhida, B., Isnanto, & Suharnowo, H. (2021). Karakteristik dan pengetahuan lansia tentang kesehatan gigi dan mulut di Dusun Koloran Kabupaten Probolinggo tahun 2020. *International Journal of Oral Health Medicine*, 1(2), 224–230.
- Namira, H. M., Hatta, I., & Sari, G. D. (2021). Hubungan pengetahuan, sikap, dan tindakan kesehatan gigi dan mulut terhadap tingkat kerusakan gigi pada siswa SMP. *Dentin*, 5(1), 47–51. <https://doi.org/10.20527/dentin.v5i1.3234>
- Nora, H., Amin, F. A., & Arifin, V. N. (2023). Faktor-faktor yang berhubungan dengan kebersihan gigi dan mulut pada lansia di wilayah kerja Puskesmas Baiturrahman Kota Banda Aceh. *Attractive: Innovative Education Journal*, 5(2), 1081–1088. <https://doi.org/10.51278/alj.v5i2.895>
- Notoatmodjo, S. (2018). *Promosi kesehatan: Teori dan aplikasi*. Jakarta: Rineka Cipta.
- Nzabonimana, E., Mallele-Kolisa, Y., & Hlongwa, P. (2024). Oral health knowledge, attitude, and oral hygiene practices among adults in Rwanda. *PAMJ Clinical Medicine*, 14, 1–15. https://doi.org/10.11604/pamj_cm.2024.14.4.42461
- Purba, M. H. (2023). Hubungan pengetahuan dan sikap dengan status karies gigi pasien di poliklinik gigi dan mulut. *Jurnal Cendekia Sehat*, 1(1), 1–7.
- Ramadhana, G. N., Irsal, I., & Fitriany, E. (2024). Hubungan kehilangan gigi dengan status gizi dan kualitas hidup pada lansia di Kecamatan Balikpapan Timur. *e-GiGi*, 13(1), 166–173. <https://doi.org/10.35790/eg.v13i1.54933>
- Riani, R. R., Hatta, I., & Hamdani, R. (2022). Hubungan pengetahuan, sikap, dan tindakan terhadap tingkat karies penderita diabetes melitus tipe 2 pada lanjut usia. *Dentin*, 6(3), 166–172. <https://doi.org/10.20527/dentin.v6i3.6825>
- Rizanur, M. F., Widodo, W., & Adhani, R. (2022). Hubungan antara pengetahuan kesehatan gigi dengan nilai indeks DMF-T siswa sekolah menengah pertama. *Dentin*, 6(1), 1–5. <https://doi.org/10.20527/dentin.v6i1.6226>
- Sari, M., & Fatihah, J. N. (2021). Gambaran pengetahuan kesehatan gigi dan mulut, perilaku kesehatan gigi dan mulut, dan status gigi lansia di Panti Wreda Surakarta. *Jurnal Surya Masyarakat*, 3(2), 86–94. <https://doi.org/10.26714/jsm.3.2.2021.86-94>

-
- Sari, M., & Permata Putri, N. I. (2021). Peningkatan pengetahuan kesehatan gigi dan mulut pada lansia dengan promosi kesehatan metode demonstrasi. *Insisiva Dental Journal*, 10(2), 26–31. <https://doi.org/10.18196/di.v10i2.11311>
- Sijabat, P. S. B., Hatta, I., & Dwinta Sari, G. (2020). Hubungan pengetahuan, sikap, dan tindakan lansia dengan status kebersihan gigi dan mulut (Tinjauan pada Panti Sosial Tresna Werdha di Kalimantan Selatan). *Dentin Jurnal Kedokteran Gigi*, 4(2), 32–38. <https://doi.org/10.20527/dentin.v4i2.2282>