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Knowledge Improvement on Oral Hygiene in Desa Randegansari Through Dental Health Education Program

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Abstract

Dental caries remains one of the most prevalent chronic diseases, especially in developing countries like Indonesia. In Desa Randegansari, East Java, low awareness and poor oral hygiene contribute significantly to its high incidence. This community service program aimed to improve oral hygiene knowledge among adult residents in Desa Randegansari through a single-session education using the Participatory Action Research (PAR) approach. The session focused on key preventive topics, including the frequency and technique of toothbrushing, appropriate brushing duration, the effects of sugary foods, and common risk factors for dental caries. Before and after the session, participants completed a standardized questionnaire to assess changes in knowledge. Participants completed a questionnaire before and after the session. Results showed increased knowledge, particularly in brushing frequency (47.37% to 68.42%) and duration (36.84% to 63.16%), though understanding of the effects of sugar consumption declined slightly (89.47% to 73.68%). The number of participants answering all questions correctly rose from 0% to 21.05%. The results showed a notable increase in the number of correct responses after the session, indicating that even a single educational intervention can significantly enhance public awareness and understanding of oral health. This program highlights the effectiveness of a participatory, context-based educational model designed for rural populations with limited access to dental care. This approach helped rural communities build on existing knowledge while learning healthier habits. It proves that small, focused efforts can lead to meaningful improvements in public health awareness.

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INTRODUCTION

Oral health is an integral part of overall health and quality of life. The World Health Organization (WHO) defines oral health as a state of being free from chronic mouth and facial pain, oral and throat cancer, oral infection and sores, periodontal (gum) disease, tooth decay, tooth loss, and other diseases and disorders that limit an individual's capacity in biting, chewing, smiling, speaking, and psychosocial well-being (Husen et al., 2022). Maintaining oral hygiene is therefore crucial not only to avoid dental caries and

periodontal disease but also to ensure general physical health, especially among vulnerable populations such as children and older adults (Darmadi et al., 2024). Oral health is a fundamental component of general well-being, yet it remains significantly neglected in many rural regions of Indonesia. According to the 2018 Indonesian Basic Health Research (Riskesdas), over 90% of the population experience dental and oral problems, with dental caries being the most prevalent condition (Agustinaswari 2019).

In Indonesia, oral health remains a significant public health concern. Data from Riskesdas (Basic Health Research) indicate that dental and oral problems remain prevalent, with caries affecting more than 90% of the population. The level of awareness and practices related to oral hygiene is generally low, particularly in rural areas where access to professional dental services is limited (Agustina et al., 2018). Poor oral hygiene practices, such as infrequent brushing, improper brushing techniques, and limited awareness of the consequences of sugar consumption, contribute significantly to the burden of oral diseases (McGrath 2019; Pranoto et al. 2023).

Socio-economic disparities compound the problem. Communities with lower socioeconomic status often lack both knowledge and resources to maintain oral hygiene. In addition, there is usually a lack of targeted health education and preventive strategies to change behaviors and improve oral health literacy (Widström et al. 2018). In response to this gap, the Indonesian government has initiated various oral health programs, such as school-based dental care and community health campaigns. However, challenges remain in reaching adult and elderly populations in rural settings (Dewanto, Koontongkaew, and Widyanti 2020).

Desa Randegansari in Driyorejo Subdistrict, Gresik, East Java, exemplifies a typical rural village where oral health promotion is still lacking. Many residents are elderly and have not received formal education about oral hygiene. In such settings, community-based oral health education programs become essential (Widjaja et al., 2025). Community empowerment through health education is a proven strategy to increase knowledge and encourage preventive behaviors. Community-based interventions are most effective when they are participatory, culturally appropriate, and focused on specific knowledge gaps (Ameliana et al., 2025). By empowering community members to understand the importance of oral hygiene and equipping them with practical knowledge, long-term behavioral change is more likely to occur (Ariwati et al., 2024).

Studies have shown that brief educational sessions, even when conducted only once, can lead to significant improvements in knowledge and self-reported practices related to oral hygiene (Tanu, Manu, and Ngadilah 2019). However, sustaining these improvements requires consistent reinforcement. The present study assesses the immediate impact of a single-session oral health counseling session on knowledge levels among village residents, with a particular focus on adults aged 40 and above (Junarti, 2015). Furthermore, this study contributes to the growing body of literature on the effectiveness of community education in improving public health outcomes in Indonesia. It provides empirical evidence on how simple interventions can be implemented in real-world settings with limited resources. It also addresses the cognitive challenges in elderly education, such as reduced memory retention and learning speed, which are often overlooked in health campaigns (Craik, 2016).

This community service program aims to enhance residents of Desa Randegansari's oral health knowledge through health counseling. The approach used involves pre- and post-intervention assessments to determine knowledge gains. Unlike standard top-down health campaigns, this model emphasizes local context and interactive communication. This is particularly important for older adults who may have different learning preferences and require repeated exposure to health messages. This paper explores the

effectiveness of a dental health counseling session in improving oral hygiene knowledge in Desa Randegansari. This solution reflects a shift from top-down health promotion to a more participatory, needs-based model that aligns with the principles of community empowerment and sustainable health behavior change.

METHODS

This community service activity was carried out with the primary aim of improving knowledge regarding oral hygiene among residents of Desa Randegansari, Driyorejo Subdistrict, Gresik, East Java. The implementation process and methodological design of this program were carefully structured to ensure clarity, accessibility, and effectiveness for the target population, particularly older adults with limited exposure to formal dental health education. This community service program was conducted using the Participatory Action Research (PAR) approach, which emphasizes active involvement and collaboration between facilitators and community members. The goal was to enhance oral hygiene knowledge among adult residents of Desa Randegansari, Driyorejo Subdistrict, East Java, through an interactive and reflective learning process.

1. Planning Phase

The program began with a situational assessment to identify the community's needs and oral health knowledge gaps. Informal interviews and observations were conducted with local residents and community leaders to determine the most relevant educational topics. Based on the findings, a health education module was designed to cover brushing frequency, correct technique, brushing duration, and the effects of sugary foods on oral health.

2. Action Phase

A single-session counseling and demonstration activity was held at the village hall. Participants were engaged in oral presentations, visual demonstrations using toothbrush models, and group discussions. The educational content was delivered in simple, culturally relevant language and adapted to the literacy level and age group of the participants, most of whom were aged 40 years and above.

3. Observation Phase

To evaluate the impact of the intervention, a pre-test and post-test design was implemented using a structured questionnaire consisting of five multiple-choice questions. The same instrument was administered before and immediately after the session to measure knowledge improvement.

4. Reflection Phase

Results were analyzed using descriptive statistics and a Wilcoxon signed-rank test to compare changes in knowledge. The findings were then discussed among the facilitators to identify strengths and areas for improvement in future interventions. The community's feedback was also collected informally to understand their perception of the program. This PAR-based method ensured that the activity was not only educational but also empowering, allowing participants to actively engage in their learning and contribute to the development of sustainable oral health behaviors.

Implementation of the Activity

a. Location and Time

The activity took place at the Village Hall of Randegansari, Driyorejo, East Java. This location was chosen strategically, as it is a central and familiar venue for residents to

gather, thereby encouraging participation. The community service was conducted over one day in August 2023, in alignment with local schedules to avoid overlap with village ceremonies and agricultural activities.

b. Participant Background

The participants in this community service were adult residents of Desa Randegansari who were present at the time of the event and voluntarily agreed to join the program. Accidental (convenience) sampling was employed, considering the nature of the outreach and the limited availability of prior registration or structured population data. Most participants were aged 40 or older, with a notable majority female. Based on the attendance list, the activity was attended by 19 residents, of whom 57.89% were women and 42.11% were men. The age distribution showed that 42.11% were between 51 and 60 years, indicating a significant proportion of middle-aged to elderly participants. This demographic profile is relevant because older adults often experience higher rates of dental caries and may have less awareness about modern oral hygiene practices due to past healthcare limitations.

Description of the Method of Service

a. Counseling and Educational Delivery

The dental health education session was conducted as oral counseling, accompanied by visual aids, demonstrations, and interactive discussions. The counseling session emphasized essential knowledge areas, including: (a) The recommended frequency of tooth brushing (twice daily), (b) Proper brushing technique (direction, pressure, and completeness), (c) Ideal brushing duration (two minutes), (d) Consequences of consuming sugary foods and neglecting oral hygiene, and (e) Common and uncommon causes of dental caries.

The materials were developed in simple, culturally appropriate language, supplemented with illustrative posters and toothbrush models. These tools were used to demonstrate proper brushing methods and to depict the effects of plaque buildup and sugary diets visually. This approach was particularly important given the age and educational background of participants, many of whom were not accustomed to health-related seminars. A team of dental professionals and educators from the School of Dental Medicine, Universitas Ciputra led each session. The presenters ensured that the language used was non-technical, and local dialects were used when necessary to ensure understanding. To encourage active participation, a question-and-answer session was held at the end, allowing participants to express their concerns and clarify misunderstandings.

b. Delivery Strategy

The educational session followed adult learning principles—namely, building on prior knowledge, encouraging self-reflection, and allowing for experiential feedback. Information was segmented into short thematic blocks to avoid cognitive overload, and each segment was followed by reinforcement questions to gauge real-time understanding. Demonstrations were hands-on, with participants practicing brushing techniques on dental models under supervision. This not only improved retention but also directly addressed individual technique errors.

Evaluation and Measurement of Program Effectiveness

To evaluate the intervention's effectiveness in achieving its educational goals, a pretest-posttest design was used. The aim was to assess any change in oral health knowledge immediately before and after the counseling session.

a. Instrument Used

The evaluation instrument was a structured questionnaire comprising five multiple-choice questions designed to assess fundamental oral hygiene knowledge. These questions were: (a) How many times a day should you brush your teeth?, (b) What is the correct technique for brushing your teeth?, (c) How long should each brush session last?, (d) What are the effects of consuming sugary foods and brushing infrequently?, and € What is a common cause of dental caries?

Each question had one correct answer and several distractors. The questionnaire was designed to be simple, avoiding technical terms to ensure it was understandable for all literacy levels. Participants were guided individually while completing the forms to avoid misinterpretation.

b. Data Collection Procedure

Participants first completed the pre-test questionnaire before receiving the counseling session. After the education session, the same questionnaire was distributed and completed as the post-test. Trained facilitators were present to ensure each participant understood the process and answered independently.

c. Data Analysis Techniques

Data collected from the pre- and post-test questionnaires were analyzed quantitatively using SPSS Version 25. Descriptive statistics were employed to determine the frequency and percentage of correct responses for each question, both before and after the intervention. A paired sample t-test or non-parametric equivalent (Wilcoxon signed-rank test) was conducted for each item to determine the statistical significance of the change in knowledge. A significance level of $p < 0.05$ was used to determine whether the differences were meaningful.

RESULTS AND DISCUSSION

The selection of a counseling-based approach was strategic, aiming to deliver context-sensitive health education in an accessible format. The use of oral counseling sessions, visual aids, and real-time demonstrations was appropriate for the village's elderly population, many of whom had not received formal dental health education. This approach aligns with the literature supporting interactive, community-based interventions as effective tools for behavior change (McGrath 2019). The implementation of pre- and post-tests allowed for direct measurement of knowledge improvement, providing quantifiable evidence that the educational content effectively addressed the knowledge gap. Thus, the program succeeded in offering a realistic and scalable solution to one of the community's core problems: insufficient oral health knowledge, particularly regarding daily hygiene practices.

This activity was attended by residents of Desa Randegansari who were present at the village hall during the session. The participants' demographic characteristics showed that the majority were female (57.89%) and aged between 51–60 years (42.11%), indicating a strong involvement of middle-aged women in oral health education. From a demographic perspective, the predominance of female participants aged 51–60 years is relevant. Studies by Folayan et al., (2020) have shown that women, especially middle-aged adults, are more engaged in health promotion activities. However, the same age group may also exhibit more resistance to behavioral change unless the information is presented in a relatable, culturally appropriate manner. Table 1 presents the distribution of correct answers before and after the counseling session (Folayan et al., 2020).

Table 1 Distribution of respondent characteristics by age

Age Group	Tingkat Pendidikan			Number of Respondents	Percentage (%)
	SMA	D3- S1	S2		
< 30 years		2		2	10.52
31 – 40 years		1		1	5.26
41 – 50 years	1	3	1	5	26.31
51 – 60 years	3	5		8	42.11
> 60 years	2	1		3	15.79

Increases were observed across most questions: the number of participants who answered correctly about brushing frequency increased from 47.37% to 68.42%, brushing technique from 21.05% to 36.84%, and brushing duration from 36.84% to 63.16%. These improvements indicate that the counseling session had a positive effect on basic oral hygiene knowledge. However, knowledge on the consequences of sugar consumption and poor brushing showed a slight decrease in correct responses—from 89.47% pre-test to 73.68% post-test. This result may reflect confusion introduced during the session or information overload, particularly for elderly participants. The implementation of the dental health counseling session is presented in Figure 1a. The participation of residents of Desa Radengasari during the activity is illustrated in Figure 1b.

(a) (b)

Figure 1 (a) Dental health counseling session and (b) Residents of Desa Radengasari

Responses to the question about causes of dental caries remained unchanged, with 42.11% answering correctly both before and after the session. This could suggest either insufficient emphasis on this topic during the counseling or pre-existing knowledge among respondents. Table 2 describes the distribution of correct answers to each questionnaire item. From the table, most respondents answered the question on “effects of consuming sugary foods and infrequent brushing” correctly in both the pre-test and post-test (89.47% and 73.68%, respectively). However, there was a statistically significant difference between pre-test and post-test responses ($p = 0.046$), with fewer respondents answering correctly. There was an improvement in the number of correct answers from pre-test to post-test on most questions. For example, in the question about the frequency of toothbrushing per day, 47.37% of respondents answered correctly in the pre-test, increasing to 68.42% in the post-test. For the question on brushing duration, 36.84% answered correctly in the pre-test, increasing to 63.16% in the post-test. Although there were improvements, they were not statistically significant (e.g., $p =$

0.096). Similarly, the correct brushing technique improved from 21.05% to 36.84%. No difference was found in the question regarding the causes of tooth decay.

Table 2 Questionnaire item types, percentage of correct responses, and comparison between pre-test and post-test results

No	Question	Pre-Test Correct	Pre-Test (%)	Post-Test Correct	Post-Test (%)
1	Frequency of brushing teeth per day	9	47.37	13	68.42
2	Correct brushing technique	4	21.05	7	36.84
3	Duration of toothbrushing	7	36.84	12	63.16
4	Effects of frequent sugar consumption and infrequent brushing	17	89.47	14	73.68
5	Cause of tooth decay	8	42.11	8	42.11

There was an improvement in correct answers from pre-test to post-test in most questions. For example, in the question regarding the frequency of brushing teeth per day, 47.37% of respondents answered correctly in the pre-test, increasing to 68.42% in the post-test. For the question on brushing duration, 36.84% answered correctly in the pre-test, increasing to 63.16% in the post-test. Although there were improvements, they were not statistically significant (e.g., $p = 0.096$). Similarly, the correct brushing technique improved from 21.05% to 36.84%. No difference was found in the question regarding the causes of tooth decay. The data from Table 3, showing an increase in the number of participants who answered all questions correctly from 0% to 21.05%, further supports the potential of even one session to catalyze knowledge improvement when delivered effectively. Nevertheless, the rise in incorrect responses post-test (10.53% to 26.32%) underlines the importance of improving clarity and pacing of information. This mirrors Dewanto et al.,'s (2020) findings on the challenges of implementing health programs in rural Indonesia, where literacy levels and cognitive variability must be accounted for in educational design (Dewanto et al., 2020).

Table 3 Distribution of respondents by number of correct answers

No	Pre-Test	Percentage	Post-Test	Percentage
All answers correct	0	0	4	21.05
4 answers	3	15.79	5	26.32
3 answers	6	31.58	4	21.05
2 answers	7	36.84	0	0
1 answer	1	5.26	2	10.53
All answers incorrect	2	10.53	5	26.32

Table 3 summarizes the number of correct responses per participant. The number of people who answered all five questions correctly increased from 0% to 21.05%, indicating that some participants gained a comprehensive understanding. However, more participants answered all questions incorrectly after the session (from 10.53% to 26.32%),

further reinforcing the possibility of misunderstanding or cognitive overload. Overall, the findings support that even a brief, single-session intervention can lead to modest improvements in oral health knowledge. However, to enhance learning outcomes and retention, especially among older adults, future interventions should incorporate repetition, content simplification, and age-appropriate communication techniques. This finding aligns with Tanu et al. (2019), who emphasized that short, targeted educational interventions can yield meaningful gains in oral health knowledge, particularly when designed with clarity and cultural relevance (Tanu et al., 2019).

However, a concerning trend was also observed: the proportion of participants who answered all questions incorrectly rose from 10.53% to 26.32% after the session. This outcome may reflect cognitive overload, misinterpretation of information, or ineffective message retention among certain individuals, especially in older age groups. Craik (2016) and Widiati & Santoso (2020) have highlighted that elderly learners often face challenges, including decreased working memory, slower information processing, and reduced attention spans, all of which can hinder learning when educational materials are not adapted to their cognitive abilities (Widiati and Santoso 2020).

The results of this study indicate an improvement in community knowledge regarding the basic aspects of oral and dental health after receiving counseling. The increase was observed in three main areas: frequency of toothbrushing, proper brushing technique, and duration of brushing. Before the counseling session, only a small number of respondents could answer these questions correctly. However, after the session, there was a notable increase in the number of respondents who demonstrated an understanding of each aspect. This suggests that educational interventions, even when brief, can improve basic oral hygiene knowledge.

Specifically, improvements in brushing frequency and technique represent important achievements. Previous studies have shown that brushing twice a day and using proper technique are correlated with a reduced risk of caries and periodontal disease (Tanu et al. 2019). Effective education can change individuals' perceptions and behaviors related to personal hygiene practices, particularly when delivered interactively and aligned with the local cultural context. Knowledge about the consequences of poor oral hygiene slightly decreased after the counseling. Before the session, nearly all participants already understood the negative effects of poor oral hygiene. The post-counseling decline may be due to several factors. First, the counseling may have focused too much on technical aspects, such as brushing methods, while not reinforcing the long-term consequences of poor habits. Second, delivering a large amount of new information in a short time could have confused or distorted the respondents' pre-existing knowledge (Darmadi et al., 2024).

This phenomenon should be considered when designing counseling materials, where reinforcement of correct existing knowledge should remain a key component of the education strategy. Third, as people age, cognitive functions such as working memory, information processing speed, and abstract thinking tend to decline (Widiati and Santoso 2020). Older adults often experience reduced attention spans and become more easily distracted. Educational materials that are too dense or delivered too quickly may not be well absorbed (Craik 2016). Knowledge regarding the causes of dental caries did not change, as the number of respondents who answered correctly remained the same before and after counseling. This may be because the counseling material did not explicitly address the etiology of caries in depth, or because the respondents already had a sufficient understanding of this topic before the session. This aligns with findings from several studies that state the causes of tooth decay are among the most well-known topics in public health campaigns (Agustina et al., 2018).

From a demographic perspective, most respondents were female, and the majority were in their 50s. Adult women tend to have a higher level of engagement in health education activities than men (Folayan et al. 2020). In addition, middle-aged and older groups often have personal or family experiences with oral health issues, making them more interested in prevention and treatment. However, these age groups are also more resistant to behavioral or cognitive changes when education is not delivered in ways that align with their habits and context (Craik, 2016). Overall, the findings of this study suggest that counseling played a significant role in improving community understanding of several important aspects of oral hygiene. However, improvements in the approach are needed to ensure that all key areas—especially the reinforcement of existing knowledge—are preserved. The effectiveness of health education should consider factors such as age, educational background, and delivery methods that are acceptable to the target group.

CONCLUSION

This community dental health education in Desa Randegansari showed that a single session can modestly improve knowledge about brushing habits. However, challenges remain, such as confusion about the effects of poor hygiene and an unchanged understanding of the causes of dental caries. Future programs should include repeated, age-appropriate, and culturally sensitive education to reinforce knowledge and support lasting oral health literacy, especially among the elderly.

CONFLICTS OF INTEREST

The authors declare that there is no conflict of interest.

AUTHOR CONTRIBUTIONS STATEMENT

Conceptualization, YA and YAF; methodology, JW; formal analysis, EYD; writing—preparation of the original draft, EYD and YA; editing, EFJ and EYD. All authors have read and agreed to the published version of the manuscript

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REFERENCES

Agustina, A., Dewi, L. Hanindriyo, E., Widita, W., & Widyaningrum, R. (2018). The correlation between occurrence of dental caries and oral health-related quality of life (ohrqol) of elderly population in yogyakarta special region. *Journal of Thee Medical Sciences (Berkala Ilmu Kedokteran)* *50*(2), 191-200. https://doi.org/10.19106/jmedsci005002201808

Agustinaswari, L. K. T. (2019). Gambaran Penyakit periodontal pada pasien yang berobat ke upt puskesmas banjarangkan ii kabupaten klungkung tahun 2018. *Jurnal Keperawatan Gigi 40*(1). http://repository.poltekkes-denpasar.ac.id/id/eprint/1839.

Ameliana, A., Yemy, Y., Yessy, A. F., Eveline, Y. D., & Dwi, S. (2025). *Link Between Early Childhood Caries and Stunting: A Public Health Perspective*. *13*(3), 819-826.

Ariwati, Ariwati, V. D., Bukit, D. S., Titaley, C. R., Agustina, L. F., Nilasari, F. D., Putri, L. A., ... & Aini, F. (2024). *Konsep dasar promosi kesehatan* (1st ed). Malang: Future Science.

Craik, Fergus I. M. (2016). *Memory, Attention, and Aging: Selected Works of Fergus I. M. Craik*. London: Routledge. .

Darmadi, E. Y., Fauziah, Y. A., Ramadhani, S., & Budi, N. K. M. (2024). Dental and oral health screening for children in kelurahan simokerto, surabaya. *Abdi Dosen: Jurnal Pengabdian Pada Masyarakat*, *8*(4), 1659-1664.

Dewanto, I., Koontongkaew, S., & Widyanti, N. (2020). Characteristics of dental services in rural, suburban, and urban areas upon the implementation of indonesia national health insurance. *Frontiers in Public Health*, *8*, 138. https://doi.org/10.3389/fpubh.2020.00138.

Folayan, M. O., El Tantawi, M., Schroth, R. J., Vukovic, A., Kemoli, A., Gaffar, B., ... & Early Childhood Caries Advocacy Group. (2020). Associations between early childhood caries, malnutrition and anemia: a global perspective. *BMC nutrition*, *6*(1), 16-24. https://doi.org/10.1186/s40795-020-00331-6

Husen, L. M. S., Hardiansah, Y., Asmawariza, L. H., Yulandasari, V., Apriani, B. F., Mastuti, A., ... & Azhari, R. (2022). Penyuluhan kesehatan melalui program gertagimu sebagai upaya menangani masalah gigi dan mulut pada anak. *Jurnal Abdimas Kesehatan (JAK) 4*(3), 500-505. https://doi.org/10.36565/jak.v4i3.408.

Junarti, D. (2015). Hubungan perilaku pemeliharaan kesehatan gigi dengan status karies. *Journal of the Public Health Sciences 1*(1), 83-88.

McGrath, C. (2019). Behavioral sciences in the promotion of oral health. *Journal of Dental Research 98*(13), 1418-1424. https://doi.org/10.1177/0022034519873842.

Pranoto, A. E., Fauziah, Y. A., Rahardjo, P., Agustia, L., Teguh, P. B., Santoso, B., ... & Hadinata, Y. (2023). School health program as an educational facility in increasing knowledge about dental and oral health at bunga bangsa elementary school. *Jurnal Andi Dosen 7*(3), 763-767.

Tanu, N. P., Manu, A. A., & Ngadilah, C. (2019). Hubungan frekuensi menyikat gigi dengan tingkat kejadian karies. *Dental Therapist Journal*, *1*(1), 39-43. https://doi.org/10.31965/dtl.v1i1.357

Widiati, S., & Santoso, A. S. (2020). Gender inequalities in caries experience among primary school-children: A cross-sectional study in a rural area of indonesia. *Journal of Global Pharma Technology 12*(8), 85-90.

Widjaja, J., Darmadi, E. Y., Fauziah, Y. A., Ameliana, Y., & Amaliah, N. (2025). Dental screening and dmf-t score analysis in desa randegansari. *Jurnal Abdi Dosen 9*(1):148–53.

Widström, E., Tillberg, A., Byrkjeflot, L. I., Stein, L., & Skudutyte-Rysstad, R. (2018). Community-based preventive activities in the Public Dental Service in Norway. *International Journal of Dental Hygiene*, *16*(2), e112-e119. https://doi.org/10.1111/idh.12326.

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