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# Development and Evaluation of Satisfaction with an Innovative Dental Home Visit Care Kit for Enhancing Oral Health Care in Dependent Older Adults

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## Abstract

**Objectives:** This study aimed to develop and evaluate the satisfaction of an innovative dental home visit care kit from the perspectives of both dentists and dental public health professionals.

**Methods:** The development of an innovative dental home visit care kit—which contains essential dental tools and educational aids organized in a lightweight, water-resistant bag designed for ergonomic home use—was rigorously evaluated by a panel of three experts using the Index of Item-Objective Congruence (IOC). A total of 38 participants assessed the kit's functionality, convenience, durability, and safety through a satisfaction questionnaire after using it to provide oral health care to dependent older adults during home visits.

**Results:** The kit achieved a high IOC score of 0.85. Among 38 participants (86.84% female, 68.42% aged 20-30 years), equal numbers were dentists and dental public health professionals. High satisfaction scores were reported for functionality (4.74/5, 94.74%) and convenience (4.59/5, 91.21%), with slightly lower scores for durability (4.20/5, 84.07%) and safety (4.40/5, 88.55%). No significant differences ( $p>0.05$ ) were found between the two professional groups.

**Conclusions:** The kit effectively supports dental professionals in delivering home-based oral care to dependent older adults. Its adaptable design enhances usability across diverse community settings.

**Keywords:** dental home visit care kit, dependent older adults, innovative, satisfaction

## Introduction

The increasing number of older adults is a significant global and national trend. According to the United Nations, the global population aged 65 years and above is projected to nearly double by 2050, reaching approximately 1.5 billion, up from 727 million in 2020.<sup>(1)</sup> In Thailand, the Institute for Population and Social Research, Mahidol University, reported that the country is transitioning into a fully aged society. By 2030, it is estimated that individuals aged 60 years and above will account for 30% of the total population.<sup>(2)</sup> This demographic shift necessitates more comprehensive healthcare services, especially for those with dependency and limitations in daily activities. These challenges often hinder access to healthcare services, including oral health care, which is frequently neglected due to difficulties in traveling to healthcare facilities.

Comprehensive oral health care at home for dependent older adults can mitigate significant health issues, such as respiratory infections, and reduce mortality rates. Notably, individuals receiving continuous oral health care have lower mortality rates than those without such care.<sup>(3,4)</sup> Oral health care for dependent older adults is critically important, as mobility limitations increase the accumulation of dental plaque and oral bacteria, leading to a heightened risk of respiratory infections such as aspiration pneumonia.<sup>(5)</sup> Studies have shown that home-based oral health care not only reduces infection risks but also alleviates disease burdens, thereby improving the quality of life for older adults effectively.

In Sukhothai Province, the growing number of older adults aligns with national trends. According to the Department of Provincial Administration, older adults in Sukhothai account for over 20% of the total population, signaling a transition to a fully aged society.<sup>(6)</sup> Among this group, dependent older adults with mobility limitations often face barriers to accessing healthcare services. In response, providing dental services at home or within communities has become a vital strategy to enhance oral health and quality of life for these individuals.<sup>(7)</sup> Delivering oral health care to remote and underserved populations remains a challenge, particularly for dependent older adults who cannot visit healthcare facilities. Deploying home care teams equipped with comprehensive an innovative dental home visit care kit is a crucial strategy to increase access to oral health services. However,

current dental home visit care kits have several limitations, particularly in equipment organization and ease of use. Many kits lack an intuitive, well-organized structure, making it difficult for dental professionals to quickly locate and access necessary tools during home visits. This inefficiency can lead to delays, prolonging visits and potentially compromising care quality. Additionally, many kits are not user-friendly, with poor ergonomics and unclear labeling, creating unnecessary challenges for dental professionals providing care to dependent older adults in non-clinical settings.

The evaluation of satisfaction with the use of the innovative dental home visit care kit is a critical step in the development of oral health care innovations, aimed at ensuring the effectiveness and relevance of the kit in meeting the needs of its users. This study focuses on analyzing and assessing user satisfaction to gather insights that will inform future improvements and ensure the kit is well-suited for practical use. The development of this specialized innovative dental home visit care kit, tailored to the needs of dental professionals, not only enhances service efficiency by reducing the workload of preparing equipment and minimizing the risk of missing essential tools, but it also addresses the specific needs of dependent older adults and individuals in remote areas who face access barriers to oral health services. This innovation promotes equity in access to dental care and contributes to the overall improvement of quality of life for older adults in society.

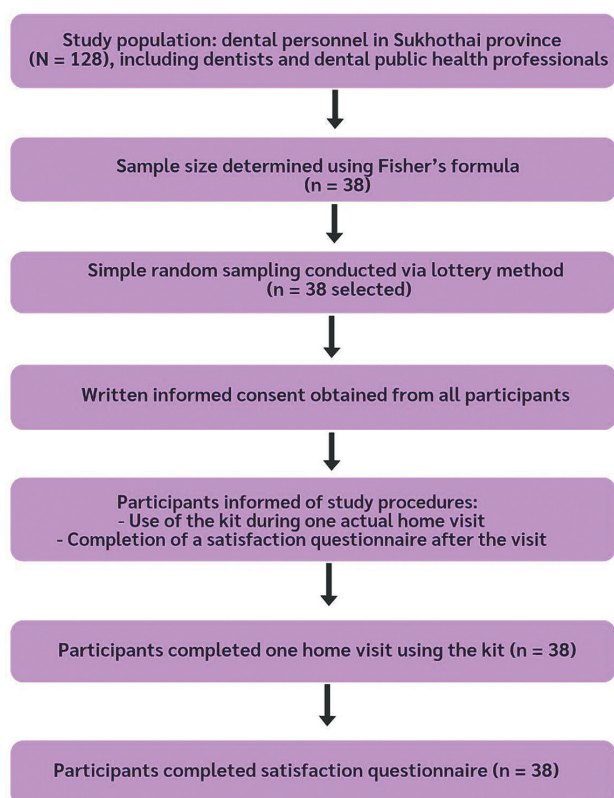
## Materials and Methods

This study used a descriptive research design to develop an innovative dental home visit care kit and assess user satisfaction with the innovation. Ethical approval for the study was obtained from the Human Research Ethics Committee of the Sukhothai Provincial Public Health Office, Thailand, under approval COA No. 101/2024 and IRB No. 14/2025.

### *Study population and sample*

The study population consisted of 128 dental personnel from Sukhothai Province, including dentists and dental public health professionals. The sample size was determined using Fisher's formula, resulting in 38 participants. To ensure an unbiased selection process, simple random sampling was conducted using the lottery method. All participants provided written informed con-

sent and were informed that they would use the innovative dental home visit care kit during one home visit with a dependent older adult, followed by completion of a satisfaction questionnaire. The participant recruitment and retention process is illustrated in Figure 1.



**Figure 1:** Flowchart of participant recruitment and retention process.

#### *Description of developing an innovative dental home visit care kit*

The innovative dental home visit care kit was developed to meet the specific needs of dependent older adults who are unable to access dental care at hospitals. The kit is housed in a bag measuring 6x12x8 inches, designed to be lightweight, portable, and highly durable. Made from premium synthetic leather, it weighs 1.2 kilograms and features a water-resistant finish for added protection and longevity. The smooth surface enhances its sophisticated appearance while ensuring ease of maintenance. For ease of transport, the bag is equipped with an integrated shoulder strap, securely stitched for added durability. The front features a flap-opening design, providing convenient access to its spacious interior. The generous storage space is designed to accommodate medical supplies and various essential tools, ensuring that

all items are neatly organized and easily accessible. The kit is equipped with all the necessary tools and materials for comprehensive dental care.

The contents of the bag include:

- Basic examination tools: Mouth mirrors, explorers no.5, and forceps.
- Protective gear: Gloves, surgical masks, hair caps.
- Oral hygiene supplies: Toothbrushes, toothpaste, fluoride varnish, chlorhexidine mouthwash.
- Treatment tools: Hand scaling instruments, cotton rolls, gauze, and topical anesthetics.
- Teaching aids: Tooth brushing model and instructional materials.
- Additional supplies: Flashlights, alcohol gel, lubricants, dental wax, plaque disclosing agents, syringes, waste disposal bags.

The innovative dental home visit care kit features an inventory checklist to assist with supply management and ensure preparedness for each home visit. Its design prioritizes ease of use, enabling dental personnel to deliver care efficiently.

#### *Validation process and expert feedback*

The innovative dental home visit care kit underwent a validation process conducted by a panel of three experts, including two specialists in geriatric dentistry and one family medicine physician. The evaluation utilized the Index of Item-Objective Congruence (IOC) method to assess the kit's design, practicality, and suitability for dependent older adults. Each component was systematically reviewed to ensure alignment with the intended objectives and its effectiveness in facilitating home-based dental care. The experts rated the relevance and appropriateness of each item based on predefined criteria, providing a quantitative measure of the kit's overall quality. The resulting IOC score of 0.85 reflects a high level of agreement among the experts, confirming the kit's validity, usability, and potential for successful implementation in real-world home care settings.

#### *Development of the satisfaction questionnaire for evaluating the innovative dental home visit care kit*

A structured process was employed to develop and validate a questionnaire assessing satisfaction with the use of the innovative dental home visit care kit. The steps included:

1. Literature review and conceptual framework development

The satisfaction questionnaire was designed based on the framework proposed by Suksod T<sup>(8)</sup>, which was adapted for this study. The assessment focused on four key dimensions: 1) Function: utility and functionality of the bag. 2) Convenience: ease of use and comfort. 3) Durability: structural durability and quality. 4) Safety: risk minimization and user protection. Questions for each dimension were developed according to this framework.

## 2. Content validity testing

The initial version of the questionnaire was reviewed by three experts to evaluate its content validity. These experts, including specialists in geriatric dentistry and dental public health, examined each item to ensure its relevance and alignment with the intended objectives of the study. The Index of Item-Objective Congruence (IOC) was then calculated to quantify the degree of alignment, with an IOC score of 0.80, indicating satisfactory content validity. This score reflects a strong consensus among the experts regarding the appropriateness and relevance of the questionnaire items for assessing the effectiveness of the innovative dental home visit care kit.

## 3. Revisions and refinements

Based on expert feedback, the questionnaire was revised to improve clarity and relevance.

## *Implementation and data collection*

The finalized questionnaire was self-administered and distributed to participants after they had used the innovative dental home visit care kit during a home visit to provide oral health services to dependent older adults. Participants were instructed to independently assess their satisfaction based on their actual experience. Standardized written instructions were provided, and the principal investigator was available to clarify any issues. This approach was intended to minimize interviewer bias and enhance the objectivity of the responses.

## *Data analysis*

The demographic characteristics of the sample were summarized as percentages, while satisfaction questionnaire results were analyzed item-by-item and presented as percentages to highlight trends and overall satisfaction with the innovative dental home visit care kit. Satisfaction mean scores were interpreted based on Srisawat B<sup>(9)</sup>, categorizing satisfaction into five levels: very high (4.51-5.00), high (3.51-4.50), moderate (2.51-3.50), low (1.51-2.50), and very low (1.00-1.50), ensuring a standardized and systematic assessment. Higher scores indi-

cated greater approval, while lower scores suggested areas for improvement. The Mann-Whitney U test, suitable for ordinal data, was used to compare satisfaction levels between dentists and dental public health professionals, with statistical significance set at  $p < 0.05$ . Additionally, interaction tables explored the relationships between participant characteristics and satisfaction scores, providing insights into how factors such as professional experience and role influenced perceptions of the kit's usability and effectiveness. All analyses were conducted using SPSS version 17 for reliable statistical interpretation.

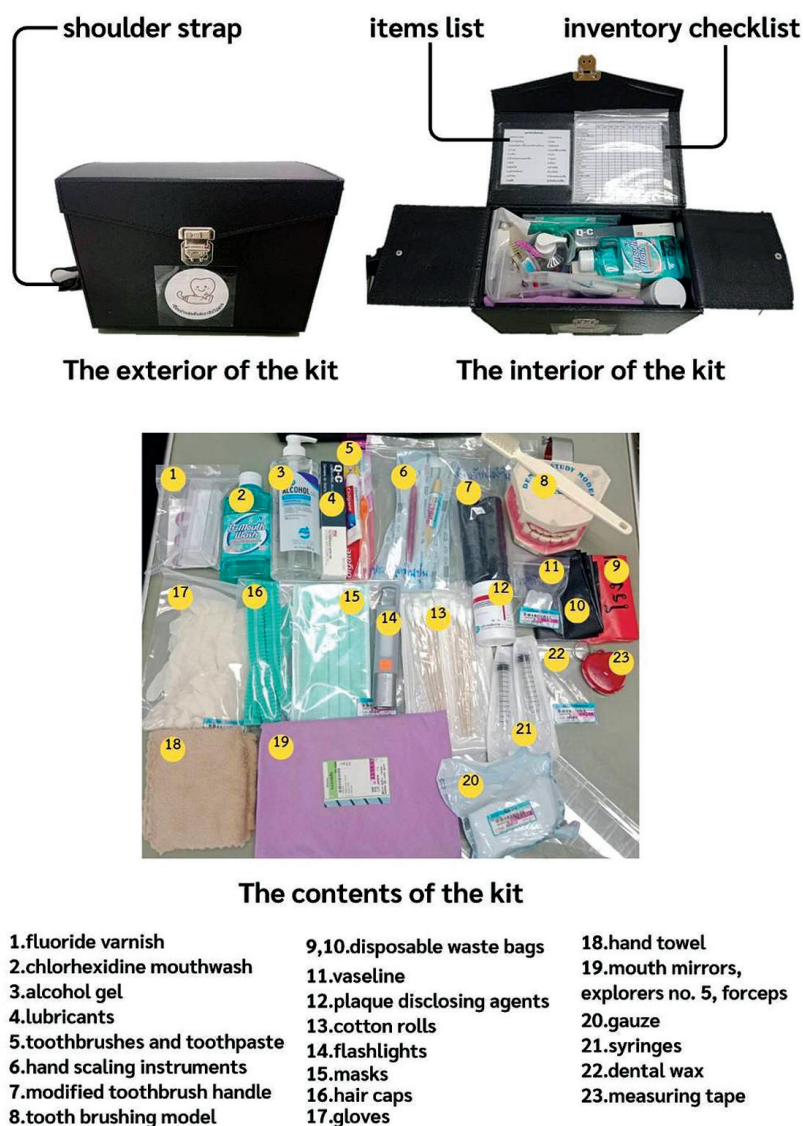
## Results

The development of the innovative dental home visit care kit received a score of 0.85 on the Index of Item-Objective Congruence (IOC), indicating a high level of agreement among experts regarding its relevance, usability, and effectiveness in addressing the needs of dependent older adults. A figure has been included (Figure 2) to present the actual kit and its components for clearer visualization of the innovation. The figure illustrates the kit's compact, water-resistant, and ergonomic design, enhancing portability and efficiency over conventional box-based kits. It also highlights a systematically organized set of essential tools that facilitate comprehensive and effective oral care during home visits.

The general information of the 38 participants reveals that the majority were female (86.84%), with the largest age group being 20-30 years (68.42%). Participants were evenly distributed between dentists and dental public health professionals, each accounting for 50.0% of the sample. Regarding education level, most participants held a bachelor's degree (86.84%), while a smaller proportion had a diploma (10.53%) or a master's degree (2.63%). Notably, none of the participants reported holding a doctorate or a professional certification/diploma (Table 1).

The evaluation of the innovative dental home visit care kit was conducted with 38 participants, including dentists and dental public health professionals. Based on the feedback, the kit demonstrated exceptional effectiveness in all assessed areas, achieving a high overall satisfaction score of 4.48 (89.49%), as shown in Table 2. In terms of functionality, the highest satisfaction scores were observed in the usability of dental tools (95.79%) and their suitability for patients' oral conditions (95.26%), indicating that the kit is well-suited for clinical purposes





**Figure 2:** The innovative dental home visit care kit and its components.

**Table 1:** General information (n=38).

Category	Sub-category	n	Percent
Gender	Female	33	86.84
	Male	5	13.16
Age	20-30 years	26	68.42
	31-40 years	7	18.42
	41-50 years	1	2.63
	51 years and above	4	10.53
Occupation	Dentist	19	50.0
	Dental public health professionals	19	50.0
Education Level	Diploma	4	10.53
	Bachelor's degree	33	86.84
	Master's degree	1	2.63
	Doctorate	0	0
	Diploma	0	0

and tailored to the needs of dependent older adults. For convenience, while the kit was rated very highly for easy and straightforward usage (93.16%), slight improvements could be made in its portability (91.47%) and organized layout for tool access (90.08%). Regarding durability, participants emphasized the quality of materials (85.20%) and structural strength (85.00%), but noted that material cost (82.00%) could be optimized further. In terms of safety, secure closure (92.40%) and regular inspection of tools and bag condition (89.21%) were rated highly, ensuring the kit is reliable and safe to use. Additionally, the cleanliness of the bag received a satisfaction score of 85.20%, further supporting its suitability for professional dental home visits.

The satisfaction scores regarding the innovative dental home visit care kit were evaluated by two groups: dentists and dental public health professionals. The study assessed four key aspects: functionality, convenience, durability, and safety. In terms of functionality, both groups rated this aspect highly, with mean scores of 4.65 for dentists and 4.82 for dental public health professionals. The *p*-value (0.347) indicates no statistically significant difference. For convenience, dental public health professionals rated this aspect slightly higher ( $\bar{x}=4.63$ ) compared to dentists ( $\bar{x}=4.46$ ), but the difference was not statistically significant (*p*=0.212). Regarding durability, the scores were comparable, with means of 4.49 for dentists and 4.61 for dental public health professionals (*p*=0.610). In terms of safety, this aspect received high ratings from both groups, with no significant difference (*p*=0.386). The analysis, performed using the Mann-Whitney U-test, revealed no statistically significant differences (*p*>0.05) between the two groups across all aspects, suggesting similar levels of satisfaction with the innovative dental home visit care kit. The comparison of satisfaction scores between dentists and dental public health professionals is presented in Table 3.

The assessment evaluated four key aspects—functionality, convenience, durability, and safety—using a 4-point Likert scale (4=most important, 1=least important). The results revealed that functionality was the most highly rated aspect, with most evaluators considering it "Most Important" (52.63%) or "Very Important" (42.11%), resulting in the highest mean score ( $\bar{x}=3.47$ ). This indicates strong satisfaction and alignment with user needs. Convenience was also highly valued, with over

90% of participants rating it positively, including "Most Important" (36.84%) and "Very Important" (55.26%), leading to a high mean score ( $\bar{x}=3.29$ ), emphasizing its practical value during dental home visits. In contrast, durability received the lowest rating, with 71.05% marking it as "Least Important", leading to the lowest mean score ( $\bar{x}=1.32$ ), suggesting concerns about the kit's robustness. Safety ratings were mixed, with "Moderately Important" (60.53%) being the most common response, followed by "Least Important" (28.95%), and a mean score of  $\bar{x}=1.92$ , indicating the need for improvements in this area. Overall, the findings highlight functionality and convenience as the most valued aspects, reinforcing the kit's effectiveness and ease of use in practice. However, the relatively lower scores for durability and safety suggest areas that require further development to enhance user confidence and ensure the long-term reliability of the kit.

Participants recommended adding designated compartments for tools to improve organization and accessibility. Including educational materials, such as educational pamphlets or guides, and items like dental floss and a mouth gag was suggested to enhance the kit's utility and comprehensiveness for home dental care.

## Discussion

The development of the innovative dental home visit care kit received a score of 0.85 on the Index of Item-Objective Congruence (IOC), indicating strong expert agreement on its relevance, usability, and effectiveness in meeting the needs of dependent older adults. This study aligns with other research highlighting the importance of tailored dental care solutions for this population, which is projected to experience a growing number of dependent older adults requiring home-based care from dental professionals.<sup>(10-18)</sup> This study aligns with the World Health Organization (WHO) guidelines for healthcare innovation, particularly in the initial phase. It addresses two core strategies: collecting user feedback from dental professionals through actual use and satisfaction questionnaires and developing expert-validated protocols to ensure consistent and safe implementation. To enhance public health integration and long-term impact, further efforts should focus on standardization, wider regional distribution, and the establishment of measurable indicators to assess oral health outcomes and guide future improvements.<sup>(19)</sup> The demographic profile of the 38 participants

**Table 2:** Evaluation of the innovative dental home visit care kit.

Aspect	Evaluation criteria	Mean	S.D.	% Satisfaction	Assessment level
Functionality	1. Usability of dental tools	4.79	0.41	95.79	Very high
	2. Suitability for patients' oral conditions	4.76	0.43	95.26	Very high
	3. Adequate storage for intended tools	4.66	0.57	93.16	Very high
Convenience	1. Easy and straightforward usage	4.66	0.57	93.16	Very high
	2. Lightweight and portable for home visits	4.57	0.64	91.47	Very high
	3. Organized layout for easy access to tools	4.54	0.64	90.08	Very high
Durability	1. Quality of materials used	4.26	0.49	85.20	High
	2. Structural strength and durability	4.25	0.54	85.00	High
	3. Reasonable material cost	4.10	0.71	82.00	High
Safety	1. Secure closure to prevent item loss	4.62	0.39	92.40	Very high
	2. Tools are in working condition without damage	4.27	0.43	85.40	High
	3. Regular inspection of tools and bag condition	4.46	0.46	89.21	Very high
	4. Cleanliness of the bag	4.26	0.48	85.20	High
Overall satisfaction		4.48	0.52	89.49	High

**Table 3:** Comparison of satisfaction scores on the innovative dental home visit care kit between dentists and dental public health professionals.

	n=19		n=19		<i>p</i> -value
	Dentist		Dental public health professional		
	$\bar{x}$	SD	$\bar{x}$	SD	
Functionality	4.65	.53	4.82	.38	.347
Convenience	4.46	.70	4.63	.49	.212
Durability	4.49	.56	4.61	.57	.610
Safety	4.70	.44	4.78	.41	.386

\* Mann-Whitney U test,  $p < 0.05$

**Table 4:** Evaluation of the innovative dental home visit care kit.

Aspect	Rating (Score)								$\bar{x}$
	4		3		2		1		
	n	%	n	%	n	%	n	%	
Functionality	20	52.63	16	42.11	2	5.26	0	0	3.47
Convenience	14	36.84	21	55.26	3	7.89	0	0	3.29
Durability	0	0	1	2.63	10	26.32	27	71.05	1.32
Safety	4	10.53	0	0	23	60.53	11	28.95	1.92

Rating scale: 4=most important, 3=very important, 2=moderately important, 1=least important

showed that the majority were young (20-30 years old) and female, with most holding a bachelor's degree. This distribution reflects a common demographic in the dental profession, where younger professionals are entering the field with a foundational education level suitable for initial practice.

Functionality was rated the highest among the four aspects assessed, with both dentists and dental public health professionals expressing high levels of satisfac-

tion. The majority found the tools in the kit well-suited to clinical needs and practical for use in home settings. Convenience was also highly rated, with over 90% of participants indicating positive experiences in terms of ease of use and portability. However, slight modifications were suggested regarding the organization of tools to further enhance accessibility during home visits. The results highlight functionality as the most positively evaluated aspect of the kit, consistent with previous

research underscoring the significance of practical and efficient tools in enhancing home dental care.<sup>(20)</sup> Both dentists and dental public health professionals found the tools appropriate for clinical needs and effective for use in home environments. The high ratings for convenience further validate the kit's portability and ease of use, attributes crucial for delivering home-based care.<sup>(21)</sup> Durability, while crucial for long-term use, received the lowest ratings among the aspects assessed. Participants noted concerns about material quality and the structural integrity of the kit, reflecting a significant challenge in maintaining reliable long-term performance. Safety was identified as moderately important, with a need for further improvements to ensure safe use, especially in home settings. This aligns with prior research that stresses the importance of ensuring ergonomic design and minimizing risks associated with the use of dental equipment in non-clinical environments.<sup>(22)</sup> For example, Steele and Walls (1997) emphasized that safe and user-friendly equipment is essential for the effective delivery of oral care to frail and dependent older adults.<sup>(10)</sup>

The Mann-Whitney U-test revealed no statistically significant differences between dentists and dental public health professionals in their satisfaction with the kit across all aspects. This suggests a general consensus among professionals, regardless of their specific roles or backgrounds. The lack of significant differences may indicate that the innovative dental home visit care kit is equally effective and satisfactory for both groups, highlighting its broad applicability and suitability for a diverse range of dental care providers. This consistency in satisfaction could reflect the kit's user-friendly design and functionality, which meets the needs of both dentists and public health officers involved in home-based care for dependent older adults.

The study highlighted the effectiveness of the innovative dental home visit care kit in delivering comprehensive oral care. Participants praised the kit for its practicality, ease of use, and adaptability to the specific needs of dependent older adults. These findings underscore the essential role that home-based dental visits play in maintaining oral hygiene for older adults, particularly those who rely on others for daily care. The effectiveness of such innovative dental home visit care kit in providing thorough and accessible oral care has been further supported by several studies, which emphasize their value

in improving oral health outcomes for elderly populations, especially those with limited mobility or access to traditional dental services. For instance, Niesten *et al.*,<sup>(11)</sup> conducted a qualitative study that explored the impact of frailty on oral care behaviors among older adults, emphasizing the urgent need for practical, tailored solutions for this vulnerable demographic. Similarly, Henni *et al.*,<sup>(12)</sup> performed a scoping review on oral health and quality of life among older adults receiving home health care services, highlighting the crucial role of accessible dental care interventions in maintaining oral hygiene within this population. Together, these studies reinforce the essential role of innovative dental home visit care kit in improving oral health outcomes for dependent older adults, who face significant challenges in accessing traditional dental care.

This study revealed that the innovative dental home visit care kit received a high score for functionality, indicating that it was highly effective and user-friendly for dental professionals during home visits. The participants reported that the kit's design and organization made it easy to locate and use the necessary tools, contributing to a smoother, more efficient delivery of care. The high functionality score suggests that the kit meets the practical needs of dental professionals, allowing them to provide quality oral health services to dependent older adults in a home setting with minimal disruption. Previous research has demonstrated that portable dental equipment can significantly improve access to oral care for elderly populations, particularly those with mobility limitations or who are homebound. For instance, a study by Rahman *et al.*,<sup>(23)</sup> explored dentists' perceptions of using portable dental units in community outreach programs, emphasizing their utility in delivering care to underserved populations, including the elderly. The study found that portable units allowed dental professionals to offer essential dental services in non-clinical settings, helping to overcome barriers such as transportation issues and physical limitations. Additionally, Charlton (2007) emphasized that portable dental equipment should prioritize mobility, ease of use, durability, and suitability for older adults, particularly in space-limited settings.<sup>(24)</sup> Consistent with these principles, the innovative dental home visit care kit—featuring a compact, ergonomic, and water-resistant design—offered greater portability and efficiency than conventional box-based kits. Its organized layout facilitated faster setup and tool access, enabling more effective



tive care delivery during home visits. These advantages demonstrate the kit's alignment with Charlton's criteria for effective portable dental solutions. Recommendations from study participants included the need for designated compartments to enhance tool organization, the addition of educational materials on oral health care, and the inclusion of dental floss and a mouth gag for more comprehensive care. These recommendations align with previous research that emphasizes practical improvements in dental kits to support patient education and the comprehensive care of dependent older adults. This discussion underscores the importance of refining innovative dental home visit care kit to better meet the needs of dental professionals and patients in community settings. The study's findings provide critical insights into the design and usability of dental care kits, emphasizing the need for material improvements, particularly in durability and safety, to enhance the overall effectiveness of dental care in home settings.

The innovative dental home visit care kit demonstrated practical effectiveness by expanding access to dental services among dependent older adults. In 2025, the year of its implementation, service coverage increased to 76.58%, compared to 32.04% in 2024, 26.92% in 2023, and 58.21% in 2022, according to the Sukhothai Health Data Center.<sup>(25)</sup> This upward trend highlights the kit's contribution to improving outreach and service equity. Beyond high user satisfaction, the kit enhanced operational efficiency by enabling more streamlined and timely care, allowing dental personnel to serve more patients during home visits. For national integration, key challenges must be addressed, including securing sustainable funding, standardizing training and protocols, and establishing robust monitoring and evaluation systems. Policy-level support and collaboration with primary care teams and community health volunteers are also critical for embedding the kit into routine oral health services. Addressing these factors is essential for maximizing public health benefits and ensuring long-term sustainability.

In addition, the potential cost-effectiveness of the innovative dental home visit care kit is noteworthy. Compared to conventional box-based kits often used in field visits, which are typically compartmentalized but less adaptable, this innovative kit—although slightly more costly in initial production due to its ergonomic, water-resistant design and structured layout—offers greater

long-term value. It improves efficiency, reduces preparation time, and enhances tool accessibility, allowing dental professionals to provide care more quickly and serve more households per visit.

The innovative dental home visit care kit developed in this study illustrates the practical application of tailored solutions for community-based care. Its adaptability to different contexts allows it to effectively meet the unique needs of elderly patients in home settings. The primary benefit of this kit is its ability to improve oral health for dependent older adults, thereby enhancing their overall quality of life. By enabling dental professionals to provide targeted, practical care in a familiar environment, the kit helps reduce barriers to accessing essential oral health services, leading to improved outcomes for dependent older adults.

The limitation of the study includes a small sample size, which may limit the generalizability of the findings. Additionally, the study assessed only user satisfaction without evaluating direct outcomes in patients' oral health, thereby restricting conclusions about clinical effectiveness. Most participants were aged 20-30 years, limiting age diversity and potentially introducing bias or type I error in comparative analyses. Future research should examine long-term clinical outcomes, include more diverse participant demographics, and explore the kit's integration into broader community-based oral health systems to support evidence-based improvements for dependent older adults.

## Conclusions

This study demonstrates the effectiveness of the innovative dental home visit care kit in meeting the needs of dentists and dental public health professionals in caring for dependent older adults. It highlights the importance of adapting the kit to diverse community contexts and improving material quality for safety and durability. The findings provide valuable insights for optimizing dental care kits, emphasizing the need for continuous innovation to support high-quality, personalized care.

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## Conflicts of Interest

The authors declare no conflict of interest.

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