Understanding Perceived Needs for Tooth Replacement in Older Adults: A Case Study of Dan Kwian

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Abstract

Tooth loss holds a complex relationship with oral health-related quality of life. A recent national survey reported only half of Thai elderly population with fewer than 20 remaining teeth had their dentures made, despite a policy promoting denture fabrication free of charge. The aim of this study was to explore the perspectives of older adults' perceived needs for tooth replacement. We purposefully selected older adults living in Dan Kwian subdistrict who were identified with a denture needed by a dental nurse but not currently wearing the prosthesis, for a face-to-face in-depth semi-structure interview. Data saturation was reached with 29 older adults. Inductive content analysis of the interview transcripts yielded two main themes. First, the factors influencing the needs for denture were: 1.1) "the word of mouth from neighbors & the village health volunteer as the main influencer" inducing the needs; 1.2) the socialization stimulated the needs; and 1.3) indirect cost despite free denture hindering the needs. Second, the dynamic of conflicting priorities: 2.1) from attach to detach once getting old or being ill; 2.2) changing perceived needs over time in response to changes in life circumstance. In sum, insights from this study may help reduce the discrepancies between professionally defined needs and the patient perceived needs.

Keywords: dental care for aged, geriatric dentistry, dentures, tooth loss, health service need and demand

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บทคัดย่อ

การสูญเสียฟันอาจมีความสัมพันธ์กับคุณภาพชีวิตอย่างไม่ตรงไปตรงมานัก การสำรวจสุขภาพช่องปากแห่งชาติครั้งล่าสุดพบว่า ผู้สูงอายุที่ทันตแพทย์แนะนำให้ใส่ฟันทดแทน มีเพียงจำนวนครึ่งหนึ่งเท่านั้นที่มารับบริการใส่ฟัน แม้จะมีการสนับสนุนเชิงนโยบายจากภาครัฐให้ใส่ฟันทดแทนได้โดยไม่มีค่าใช้จ่ายในการรักษา งานวิจัยนี้มีวัตถุประสงค์เพื่อศึกษาความต้องการใส่ฟันทดแทนของผู้สูงอายุ โดยเจาะจงเลือกผู้สูงอายุในพื้นที่ตำบลด่านเกวียนซึ่งเคยได้รับการแนะนำให้ใส่ฟันจากทันตาภิบาล เป็นผู้ที่เคยใส่ฟันเทียมแต่ปัจจุบันไม่ได้ใส่ และผู้ไม่เคยไปรับบริการใส่ฟันเทียมเลย ทำการสัมภาษณ์เชิงลึกซึ่งพบว่าข้อมูลอิ่มตัวเมื่อสัมภาษณ์ผู้เข้าร่วมวิจัยจำนวน 29 คน จากการวิเคราะห์เนื้อหาแบบอุปนัยพบว่าความต้องการใส่ฟันของผู้สูงอายุมี 2 ประเด็นหลักที่น่าสนใจ ประเด็นแรกเป็นปัจจัยที่เกี่ยวข้องกับความต้องการใส่ฟัน 1.1) ปัจจัยสำคัญที่ทำให้ผู้สูงอายุอยากใส่ฟัน คือ การเล่าปากต่อปากของเพื่อนบ้าน และ การชักชวนโดยอาสาสมัครสาธารณสุขหมู่บ้าน 1.2) บทบาทของฟันต่อการเข้าสู่สังคมกระตุ้นให้อยากใส่ฟันไม่แพ้เรื่องอาหารและโภชนาการ และ 1.3) ค่าใช้จ่ายทางอ้อมในการมาใส่ฟันทำให้ความอยากใส่ฟันลดลง และประเด็นที่สองพบว่าความต้องการใส่ฟันสามารถเปลี่ยนแปลงลื่นไหลได้ตามกาลเวลา อันเนื่องมาจาก 2.1) วัฒนธรรมการปล่อยวางเมื่ออายุหรือมีการเจ็บป่วยเพิ่มขึ้น และ 2.2) เหตุการณ์ต่างๆ ในช่วงเวลาต่างกันทำให้ความต้องการใส่ฟันเปลี่ยนไปเปลี่ยนมาได้ การไม่ไปใส่ฟัน อาจไม่ได้แปลว่าไม่อยากใส่ โดยสรุปแล้วข้อมูลเชิงลึกจากงานวิจัยนี้อาจนำไปปรับใช้กับนโยบายเพื่อทำให้ความต้องการใส่ฟันทดแทนให้กับผู้สูงอายุจากมุมมองของทันตบุคลากรและมุมมองของผู้สูงอายุในพื้นที่ใกล้เคียงกันมากขึ้น

คำสำคัญ: การดูแลทางทันตกรรมในผู้สูงอายุ, ทันตกรรมผู้สูงอายุ, ฟันเทียม, การสูญเสียฟัน, ความต้องการบริการทางสุขภาพ

Background and Rationale

Tooth loss holds a complex relationship with oral health-related quality of life. Although tooth loss may lead to negative impacts,[1-8] loss of posterior teeth may seem to be a little problem in older adults especially for those who culturally only concern about appearance of front teeth[9,10] Also, replacing a few teeth in posterior area might not be necessary for patients who already had shortened dental arch (SDA) condition.[11,12] However, many dental professionals made their treatment decision based on replacing the loss of body structure rather than focusing on functions that affect quality of life perceived by the patients.[4,13,14] Normative need was defined as the needs for treatment assessed by experts which often based on biomedicine perspectives. On the other hand, perceived need or felt need was defined as the results of self-perception and self-assessment of people to their illnesses.[8,15,16]

In Thailand, there have been several policies and campaigns encouraging and promoting older

adults to have their missing teeth replaced by a removable denture. In 2005, the Dental Health Bureau, Ministry of Public Health had promoted the provision of removable acrylic dentures through the Royal Project.[17] Moreover, in 2008, the National Health Security Office had included the denture treatments into the universal health coverage scheme.[18] However, latest data from the 8th national oral health survey in Thailand showed that only 50% of people aged 60 or over with prosthodontic treatment needs actually had their denture fabricated.[19]

In Dan Kwian subdistrict, Chok Chai district, Nakhon Ratchasima province, some hindering situations were addressed. For example, older adults living in Dan Kwian can see a dentist for denture fabrication at nearby primary care unit (PCU) without having to go to Chock Chai community hospital. Moreover, if they wish to seek care at the hospitals, the distances between Dan Kwian and two big towns, namely Mueang Nakhon Ratchasima and the town center of Chok Chai district are less than 20 km. Hence, we selected this setting with an assumption that physical and financial access to the prosthodontic treatment had already been addressed.

The cause of this phenomenon is still unclear. It could be the lack of human resource to implement the policy, or it could be the under-utilization from a discrepancy between the normative needs and perceived needs regarding tooth replacement.[14,20,21] Older adults in Thailand may cope well and are satisfied without actual bad consequence from tooth loss; on the other hand, they may over-adapt which may lead to other systemic health problems.

Understanding the complexity of this situation in the context of Thai culture may help improve the efficiency of the publicly funded dental care in Thailand and to most importantly improve the quality of life of the Thai older adults.[9,22-24] Therefore, the purpose of this study was to explore the perspectives of older adults living in Dan Kwian subdistrict regarding their perceived needs for tooth replacement.

Methodology

We employed a qualitative approach for collecting data between March to August 2019. We purposefully selected older adults, who lived in the catchment area of Dan Kwian primary care unit (PCU) for face-to-face in-depth interview. The selection criteria for key informants comprised: 1) aged 60 or over with Thai nationality registered to the universal coverage scheme (UC) or the civil servant medical benefit scheme; 2) living in Dan Kwian subdistrict in Chok Chai district, Nakhon Ratchasima province, Thailand; 3) identified by a dental nurse as needing a denture (assessed during fiscal year 2016 and 2017), and at the time of data collection, not wearing a denture; 4) able to communicate by themselves; and 5) not identified as end-of-life patients. A dental nurse and a registered nurse working in the PCU were the gatekeepers who suggested potential key informants after reviewing the paper-based patient registry. From the total of 121 older adults identified as needing tooth replacement, 52 met

the inclusion criteria. Researcher then contacted each potential informant by telephone to inform about the research. Three days later, we contacted them back to ask if they would like to participate. The interview appointment (date, time, and place) was based on their convenience in which all of the informants chose to be interviewed at home.

All face-to-face in-depth semi-structure interviews were conducted by NT using an informal conversational style in Thai which lasted around 60 minutes each. A conceptual framework was formulated from literature review to help create an interview guide. This guide was content validity approved by three experts. The interview covered the following issues such as experiences about tooth loss, the perceived needs for tooth replacement, the factors influencing why they refused prosthodontic treatment or stop wearing a denture etc. However, the semi-structure style allowed the researcher to probe for details and examples, as well as expand the interview questions according to informants' responses. All interviews were audio-recorded and transcribed verbatim.

For increasing the trustworthiness of the qualitative study, the findings were triangulated for data sources and data collection methods[7,25] For the data triangulation, we cross-checked the information on the same topic, such as the influence of village health volunteers (VHV) from several key informants. Moreover, we observed some information such as food modification. The thematic inductive content analysis was used, and the labelling and categorization of codes was guided partly by the conceptual framework derived from a literature review. However, inductively we allowed new categories to emerge from the data. We finalized with a consensus between the two authors.[25] Finally, the member checking or the process of bringing back the interpretation of the findings to research key informants to validate and scrutinize was employed to enhance the rigor and trustworthiness of the qualitative inquiry.[25] To ensure the confidentiality of the key informants, the member checking process did not yield any information that would breach informants' identity.[7,25]

Ethics Committee (EC) Approval

This study was approved by the human research ethics committee of Thammasat University (COA No. 020/2562).

Results

The data saturation was reached when 29 older adults were interviewed. Twelve older adults had their dentures made but no longer wearing them and 17 refused having the denture made in the first place (Table 1).

From 17 people who refused to have the dentures made, 10 people reported that they were still coping well without denture. Also, no evidence of systemic illness from having no denture nor other oral health problem was noticed. On the other hand, 7 people reported problems e.g., avoiding socializing, difficulty eating and swallowing. Interestingly, the older adults who reported the problems, 4 people still refused to have their dentures made. And 3 people had changed their

Table 1 the characteristics of research informants

Characteristics	Refused denture treatment						Accepted the treatment and stop wearing denture					
	N (%)	Mean	Med.	SD	Min.	Max.	N (%)	Mean	Med.	SD	Min.	Max.
1. Sex												
- male	5 (29.4)						4 (33.3)					
- female	12 (70.6)						8 (66.7)					
2. Age (years)		73.8	73	6.9	63	85		71.8	69	8.2	63	87
- 60-69	6 (35.3)						6 (50.0)					
- 70-79	6 (35.3)						4 (33.3)					
- 80 and over	5 (29.4)						2 (16.7)					
3. Marital status												
- unmarried	0						1 (8.3)					
- married	8 (47.1)						5 (41.7)					
- widowed	9 (52.9)						6 (50.0)					
4. Educational level												
- no	3 (17.6)						2 (16.7)					
- less than 4th grade	1 (5.9)						0					
- 4th grade and higher	13 (76.5)						10 (83.3)					
5. Occupational status												
- retired	12 (70.6)						8 (66.7)					
- still working	5 (29.4)						4 (33.3)					
6. Income (baht)		1811.8	1500	1341.1	700	5000		2233.3	1000	1877.7	800	5000
- less than 1000	3 (17.6)						1 (8.3)					
- 1000-3000	12 (70.6)						7 (58.3)					
- more than 3000	2 (11.8)						4 (33.3)					
7. Distance between house and PCU		3.8	4	2.62	0.2	9		3.8	1	3.92	0.04	8.7
- less than 1 km.	4 (23.5)						7 (58.3)					
- 1-5 km.	10 (58.8)						0					
- more than 5–9 km.	3 (17.6)						5 (41.7)					
8. Health insurance scheme												
- civil servant medical benefit scheme	2 (11.8)						1 (8.3)					
- universal coverage	15 (88.2)						11 (91.7)					
9. No. of remaining teeth		5.2	5	3.58	11	0		2.2	0	4.24	8	0
- 0	3 (17.6)						7 (58.3)					
- 1-5	6 (35.3)						3 (25.0)					
- 6-10	6 (35.3)						2 (16.7)					
- more than 10	2 (11.8)						0					
Total	**17 (100)**						**12 (100)**					

Note: Max. = maximum, Med = median, Min. = minimum, PCU = primary care unit, SD = standard deviation

minds from not wanting a denture to wanting their tooth loss replaced. For those 12 people who had their dentures made but no longer wearing them, 8 reported no problem without a denture while 4 people reported some problems e.g., avoiding socializing, difficulty eating and swallowing. Older adults reported many reasons for discontinuing wearing a denture such as feeling like vomiting, difficulty talking, drooling, feeling "foreign", and decreasing appetite. However, these older adults would like to have their dentures remade or adjusted. (Figure 1)

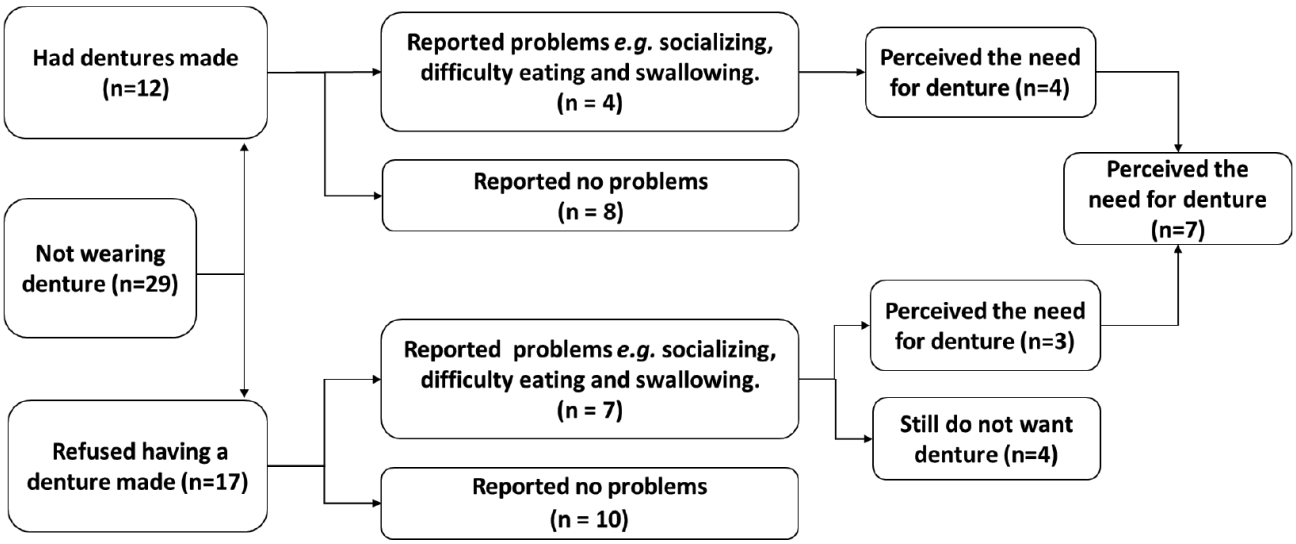


Figure 1 The consequences from not wearing denture and the dynamic perceived needs for tooth replacement of older adults

There were two main themes emerged from data analysis; 1) the factors influencing the needs for denture; and 2) the dynamic of conflicting priorities.

Theme 1: the factors influencing the needs for denture

We found three main factors that influenced the perceived needs of these older adults: 1) the "influencer" (Word of mouth and the VHV as a key influencer); 2) "the socialization stimulated the needs" – interestingly, from this group of informants, tooth replacement of front teeth for appearance and posterior teeth for being able to eat with other people at social events were more common than eating for nutrition; and 3) "indirect cost despite free denture" hindered the perceived needs.

Sub-theme 1.1: the "influencers"

We found that words of mouth, whether positive or negative, were mainly influenced older adults' decision for replacing tooth loss. The older adults revealed that the VHV were key influencers. The statistics of the denture project also showed that villages with active VHVs, as perceived by PCU personnel, had the highest numbers of older adults seeking denture fabrication. Active VHV usually met with people in their catchment

responsibilities at least once a week for other public health task such as dengue prevention, monitoring blood pressure, visiting homebound and bed ridden patients, delivering the medication. We found that, in general, these VHVs tried to persuade about tooth replacement around 4-5 times per one older adult.

"It was the health volunteer who convinced me. She visited [my place] to monitor my wife's blood pressure regularly and every time she told me dentures were good, dentures were free, so I went..." – Mr. SS

In addition, informants reported that they made decision based on stories of positive or negative experience of denture making that spread around the neighborhood. Elderly people who refused denture treatment reported two types of negative stories. Firstly, the pre-prosthodontic treatment especially tooth extraction and bone surgery. Rumor through the grapevine was about the postoperative pain and nonhealing wound that was difficult to care for. Some of them reported that they preferred having compromised teeth rather than having the teeth extracted for a denture. Many simply reported the fear of the surgery.

"Heard so many people talking about irregular gum that needed to be cut and do some kind of surgery [before having a denture made] so I am scared and not interested...so I did not go [to PCU]." - Ms. LP

Secondly, for this case study of Dan Kwian, (2016-2017) not only they had dentist providing care at the PCU, but they also had a denture specialist (prosthodontist) providing treatment once a week. In this subdistrict, 121 older adults were identified as needing denture from a professional point of view, and 69 people (57%) accepted denture fabrication. With this number, there were some challenging cases and some patients who did not come back for a denture adjustment. Unfortunately, rumors had it that some of the new dentures were loose or painful.

"People are saying that it hurts or becomes loose. Some said it [denture] was pushed inward when they eat or sometimes pushed outward when they talk. People are saying you know.... and they talk bad things...when it's [denture] good they don't like to talk about it, but when something bad happened they love to chit chat about it." - Mr. PPK (who had refused denture treatment.)

Sub-theme 1.2: "the socialization stimulated the needs"

We found that there were many ways older adults used to cope with the eating functions of teeth. But for the appearance, only the prosthodontic treatments can help with this concern. Even though they live in so called a rural area, we found that 70% of our research informants who accepted denture treatment in the first place reported that they were concerning about their front teeth missing for talking and smiling. Interestingly, when listen carefully they reported that one of the reasons for replacing posterior teeth was to be able to eat properly together with other people. The eating function of teeth in this case study was not mainly about nutrition but more

about food choice that allow them to share with others on the same table.

"I wear them when I have to dine out at social events like Chinese-style round table at weddings where people see me during mealtime. If I am at home, I don't feel embarrassed. At home, I don't wear false teeth that much." -Ms. SPR

"When I'm home I don't wear them. I don't care my family know I have no teeth. But when I go out, people don't know that [I don't have natural teeth] so I wear them." - Ms. WB

For those who refused denture or used to wear denture but no longer did, we found that they can adapt and modify their eating routine by making the food softer or cutting them into smaller size without losing the significant nutritional value (Figure 2). The examples of food they prepared were boiled or steamed vegetable, steamed rice, egg, and fish as the main source of protein, soup and curry as they reported that the fluid helped making the food softer and also helped with swallowing.

"I have this small knife in my [betel nut] basket...when I want to eat something I just cut, cut, cut, and I can eat..." - Ms. BI

Figure 2 Examples of food modification for chewing by study participants: a) steamed and sliced, b) cut into tiny pieces, c) crushed & ground, and d) boiled to soften

Sub-theme 1.3: "indirect cost despite free denture"

We found that despite the denture free of charge and the availability of a prosthodontist at the PCU close to home, there were other indirect financial barriers that competed with the needs for care. These barriers included:

1.3.1 Travel expense

Some elderly people had difficulties going to the PCU despite the distance. They reported that

they could not go to PCU by themselves. Some older adults did not have children bringing them to the PCU, they must hire someone to take them to the PCU. It was a big concern for some older adults who had financial limitation.

"I know that the denture at the anamai [PCU] was free but I did not want to go. I had nobody to take me there. I don't want to hire somebody to take me there you know it would cost 80 baht a trip so I decided not going. I don't have much money." - Ms. NP

Interestingly, it was surprising to find that the distance to PCU was not the main factor. We found that highway number 224 (Nakhon Ratchasima - Chock Chai) was a big geographic barrier for the villagers actually living shorter distance on map to the PCU but in reality they had to travel a longer distance as they could not just walk across the highway to the PCU (Figure 3). Older adults who had houses located on the same side of the road, no matter how far it was, could easily travel to the PCU. Many reported that they could go to the PCU by themselves either on foot, by bicycles, or by motorcycles. On the other hand, older adults who live on the opposite side of the highway reported that they could not walk or ride a motorcycle to cross the highway as it was too dangerous and they depended largely on hiring someone to take them to the PCU by car. This in turn affected access to care at this PCU even when living just across the road.

"I can't cross the highway by myself. It's too dangerous. If I want to go [to PCU] I have to ask my children to take me there. I don't want to. They have to work. They are busy you know. I feel considerate." - Ms. BI

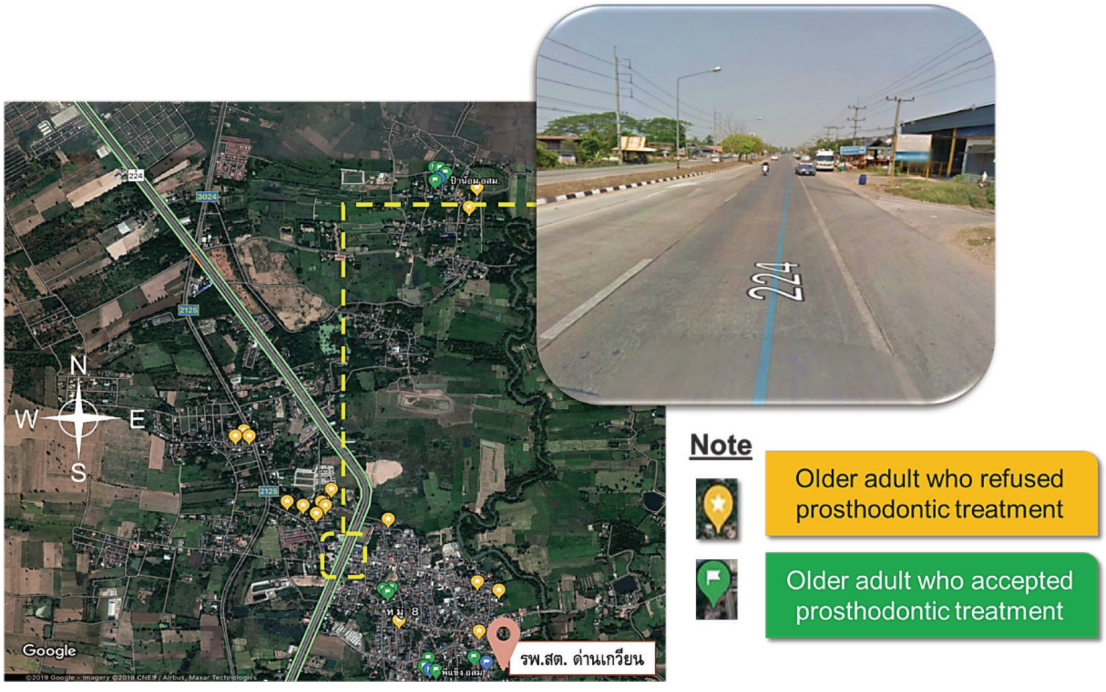


Figure 3 Geographic barrier matters more than distance.

1.3.2 Time required

Similarly, time required to have a denture made was impossible for older adults who had to take care of their ill family members. In addition, regarding time required for making denture, most older adults reported that 3-4 visits for one denture treatment was considered acceptable, but it usually takes 5-7 visits.

"Going to see a dentist for making dentures takes a lot of time...it's not convenient...I have to take care of my grandchildren. I must take care of my husband who had a stroke. If I go, it's all messed up. The other day I went out for 3 hours, I came back my grandchildren cried so badly that I had a headache." - Ms. TU

1.3.3 The policy of free denture – but only one in 5 years

Almost all of informants had the universal coverage (UC) scheme. This scheme identified that patients could have free dentures only once in five years. We found that some older adults reported that this regulation was a barrier for those who was not satisfied with the denture made and would like to have a new one made but could not.

Theme 2: the dynamic of conflicting priorities

We found that perceived need for denture treatment was dynamic, or it could be changing over time. Also, not seeking care did not necessarily mean that the need was not perceived. However, it was the dynamic of conflicting priorities in life that they had to choose what came first at the time being. Two sub-themes emerged from the data: first, the culture of detachment, and second the changing of life circumstance.

Sub-theme 2.1: "the culture of detachment when getting older or turning ill"

We found that the factor of culture of detachment seemed to be a big umbrella to all the beliefs regarding needs for the prosthodontic treatment. Two-thirds of the informants (67%) easily accepted their oral health conditions and tooth losses. They referred to the concept of so-called "sankhara" (in Thai สังขาร) to withstand the changing of their physical body that was uncontrollable or unable to stay the same. This concept might not only affect the needs for tooth replacement, but also affect other needs in their life. Moreover, the culture of detachment influenced also their ability to deal with emotions or feeling of loss.

However, research informants started to self-identify their being "old" at different chronological age. Even though they used to see their teeth as important part of life and they would need denture if they were younger, but at one point later in life when they feel "old", they stated that it was okay to lose some teeth and that we should not force ourselves against the "sankhara".

"Having a denture does not make me younger. It's okay to have cheeks like this...to look like this...I am old and it's OK." - Mr. PPK

Some older adults felt that their remaining teeth were adequate and they did not want to do anything, especially prosthodontic treatment. They just lived with it and did not even think or see tooth loss as a problem. They did not see that the denture treatment would give more benefits to them.

"I still do not want it [denture]. Sincerely, I can still eat. I am old. I can eat the way I can. It's enough to live like this." - Mr. LPK

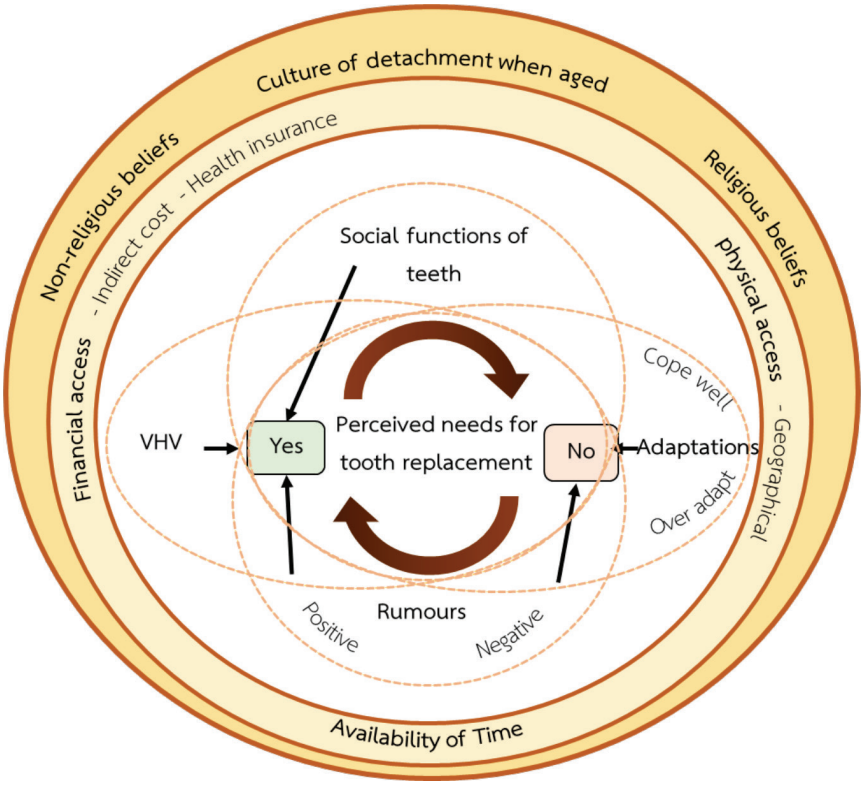
"Let it be. I am old. I can die any day now. I am not worried. Having a denture or not, I will still die. It doesn't matter. It's OK." - Ms. BI

Sub-theme 2.2: "perceived needs could change over time in response to changes in life circumstance"

We found that the perceived needs of tooth replacement in older adults could change over time. Some informants reported that they needed denture in the past because they had socialization but once they saw no need to socialize, they no longer wanted denture. Especially informants who had spouse as social leaders, the needs for denture faded away once their spouses passed away. Some elderly people reported that after their retirement their perceived needs for denture declined.

On the other hand, some people who refused the treatment two years earlier later expressed the needs for tooth replacement. Life stories can change over time. So, we found that the follow-up of their perceived needs was important. While not being coercive, one-time recruitment as denture candidate proved not to be enough capture of the dynamic changes of needs for treatment.

In sum, all themes and sub-themes can be illustrated as a theoretical framework proposed as Figure 4.



Note: VHV = village health volunteer

Figure 4 Factors affecting perceived needs for tooth replacement of older adults

Discussion

We found that this dental utilization rate could be stemmed from many barriers to access to care.[26] In addition, many studies[14,16,20,21] reported the discrepancy between the needs for tooth replacement viewed by dental professionals and the patients. Similar to previous studies,[26-30] we found that indirect travel cost was still present as financial barrier. Other obstacles reported were obligation of caregiving a family member or the feeling of being a burden if they had to ask their children to take them to the PCU.[27-30] Interestingly, we found that the villages with low service utilization rate were influenced by a highway that cut across the middle of the subdistrict. This finding is in accordance with Rittirong's study[29] that rivers and highways as a physical barrier for travelling were more significant than the distance measured directly on map especially in the area where public transportation was not available. Moreover, words of mouth regarding the surgery needed prior to having a denture made, the lengthy procedures, and the complaints of difficulties coping with a new prosthesis affected older adults' decision to not having a tooth replacement. On the other hand, we found that the counterparts who conveyed positive side of having a denture were VHVs. Our findings confirmed the crucial roles of VHV workforce in Thailand's health care system that connected villagers to the public health policy.[31] The VHVs identified as our research informants were the main influencer for older adults' oral health care decision making.

The reason of the needs for tooth replacement in older adults may be different in each culture.[9,10,32-36] In the western culture, concern regarding appearance was prominent.[9,10] On the other hand, in Japan, Saudi Arabia, Brazil and India, people reported that they paid more attention on chewing function than esthetic concerns.[32-36] In Thailand, previous study[14] found that older adults needed denture treatment for improving their chewing. However, our findings suggested otherwise. Seventy percent of older adults who accepted denture treatment expressed concerns regarding social function of teeth. Interestingly, there were cases who mentioned that false teeth would help them eat at the same table with other people rather than viewing chewing function related to nutrition. Our research informants viewed that diet could be modified, similar to previous studies[30,37-39] showing food texture modification/ selection or increased mealtime; but for the facial appearance, only denture was the solution. This led to the question of how dental care should be advocated in Thai culture in the future campaign. The current strategies are advocating tooth replacement for masticatory performance and nutrition when a certain number of teeth were missing, and occlusal units were inadequate. Even though the number of teeth was associated with chewing performance,[5-7,30,36,37] it may not always reflect the quality of life or the nutritional status.[4,39] Our findings were in accordance with the theoretical model of MacEntee's "Significance of Mouth in Old Age"[6] that clinical measures of oral dysfunction often did not allow the adaptation and the coping of the gradual decline state. Our informants

also saw the practicality and positive role of coping and adaptation with tooth loss. We suspected the discrepancy between the perceived needs and normative needs estimated by oral health provider as they purely based the assessment results on the clinical assessments of number of teeth and occlusal units.[4,14,21,40,41] Kleinman A.[16] and Good BJ.[42] described this practice as using a "bio-medical perspective". Many dentists suggested prosthodontic treatments because they saw the "structural defect/abnormality" in the patient's mouth.[4,13,14] However, the perception of normality of the body in each people varies. Culture had shaped the beliefs or perception of sickness or abnormality of body and gave the meaning of illness. The so called "illness perspective" also provided ways for older adults to cope or heal.[42] These two different perspectives of biomedical diseases versus illness may explain the discrepancy regarding the needs for tooth replacement. Hence, some patient might refuse the denture treatments despite they did not have any teeth in their mouth.[4,13] In this study, we found that the culture of detachment in older people either from non-religious belief (tooth loss as a part of aging) or religious belief (the concept of "sankhara" in Buddhism) played a big role. Many studies reported that older people believed that the major cause of tooth loss was from aging.[30,35,43,44] Thus, the concept of sankhara was adopted to accept this inevitable change. Also, the concept of "sufficiency" also frame them to be content with whatever came into their lives.[30,35,43,44] Piriya-koontorn, Balthip and Naka[45] proposed that older adults used the concept of detachment to cope with their illness or chronic diseases.

At the same time, similarly to McEntee's conclusion, we do not simply suggest that all people could cope and adapt with no discomfort or general health consequences. We too portrayed that there were both groups of people who coped well and people who over-adapted with negative consequences. However, stigmatization and labelling "tooth loss" as "dysfunction" might backfire as we found that even in Thai rural culture, our informants concerned about appearance as well. This could potentially lead to social isolation of the elderly individual who do not have natural teeth or cannot tolerate wearing denture.

Moreover, the perceived need for tooth replacement in older adults can change over the time, the level of the needs may increase or decrease.[24,30] We found that when life circumstance changed, the needs changed. The national dental care campaigns were often launched according to the fiscal year and not always allow the change of minds of the patients. Revisiting perceived needs should be done regularly.

Conclusion

In sum, we argue that assessment of needs for prosthodontic treatment in older people should be better balanced by asking the patients' illness perspective adding on to the disease or biomedical perspectives to decrease the discrepancies between patient's clinical reality and dental professionals' viewpoints. Also, besides personal belief and experiences, external factors such as

indirect cost of travelling and geographical barriers influenced the denture refusal, despite a free denture.

However, the limitation of this study was that we did not include older adults who had their dentures made and still wearing them. Future studies that incorporate their viewpoints would give a complete understanding of the phenomenon.

Recommendation

Our findings suggested that the current need assessment criteria and frequency of patient recruitment for tooth replacement might need to be revised. The assessment of the perceived needs of elderly patients may be performed regularly at least yearly as perceived need changes over time. Aged-friendly community design and public transportation or service supported by local government may play an important role to reduce geographical barriers and travel cost. VHVs still play an important role as a connector between healthcare providers and villagers. Finally, holistic and patient-centered care approaches as part of primary care service may provide much needed tailor-made care for older adult population.

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