

Oral health in elderly: Assessment and current research status in Vietnam

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ABSTRACT

Vietnam officially entered the aging population in 2011 with the elderly accounting for 10% of the total population. Aging not only influences overall health but also affects oral health. To evaluate oral function, various studies suggested using the term oral hypofunction with several criteria linking to swallowing, chewing, pronunciation activities. This study aims to give an overview of the assessment of oral health in the elderly and the research status of this issue in Vietnam. Within the limitations of the database search, oral hypofunction was evaluated clinically through 7 criteria. However, there have been no studies documenting this issue in Vietnam recently. For the preparation of an aged society in the future, studies about oral hypofunction should be encouraged.

Keywords: geriatric dentistry, oral hypofunction, aging population

1. INTRODUCTION

Population ageing is one of the most significant trends of the 21st century. There has been a shift from Europe, North America to Asia, Latin America. Recently, Southeast Asia had an increasing proportion of the elderly population [1].

Vietnam's current population is 100.3 million people in March, 2024 according to the latest data from the United Nations. Average life expectancy is 73.7 years. The transition time for Vietnam from "Aging society" to "Aged society" might be shorter and faster than the developed countries: about 20 years. Life expectancy is expected to grow rapidly and the average population growth rate is expected to decrease.

Using the data from Viet Nam Population Projection for the Period 2019 - 2069, under the medium fertility variant, Viet Nam will end the period of the demographic window of opportunity by 2039.[3] Vietnam's aging population will be growing rapidly, from 7.4 million in 2019 to 16.8 million in 2039 and 25.2 million in 2069. [3] The age pyramid in 2019, 2039, and 2069 clearly shows the change in the age structure of the Vietnamese population towards an aging population [2].

Although the average life expectancy can reach 74 years and is increasing, the healthy life expectancy is only 64 years. Elderlies must live up to 10 years with disabilities and diseases [3]. The need of new care models adapted to the aging society is rising. Among these, frailty syndrome describes a clinical state of increased vulnerability that is recognized

by progressive multisystemic decline, reduced physiological reserve and ability to cope with acute stress, and increased adverse health outcomes.

Percentage of population aged 60 years or over by region, from 1980 to 2050

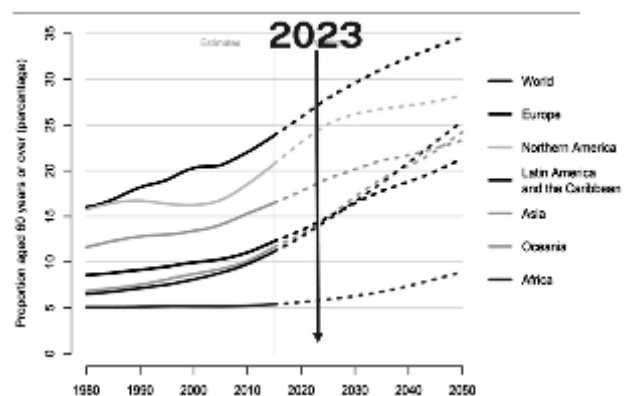


Figure 1. Percentage of population aged 60 years or over by region, from 1980 to 2050 [1]

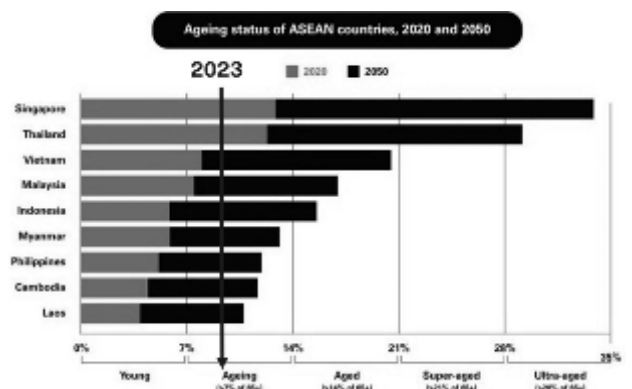


Figure 2. Ageing status of ASEAN countries, 2020 to 2050 [2].

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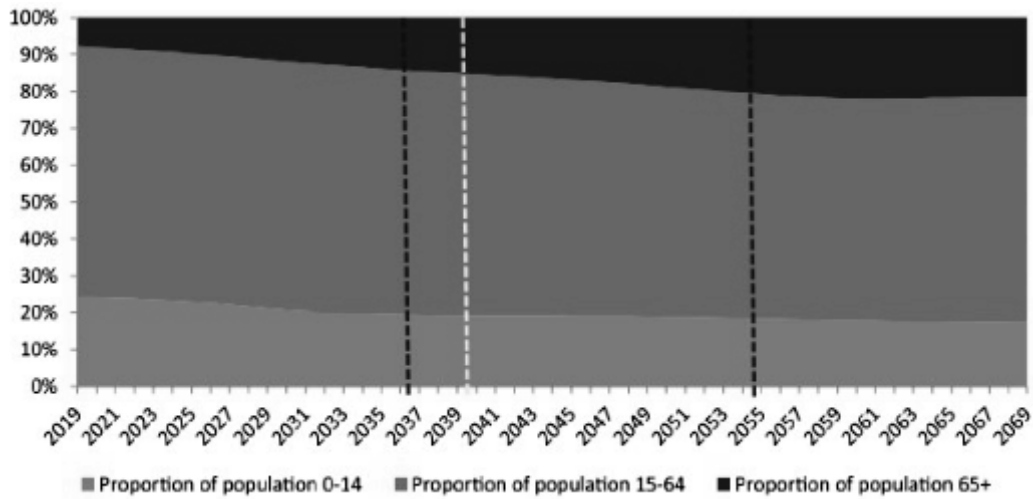


Figure 3. Projected demographic window of opportunity period [3]

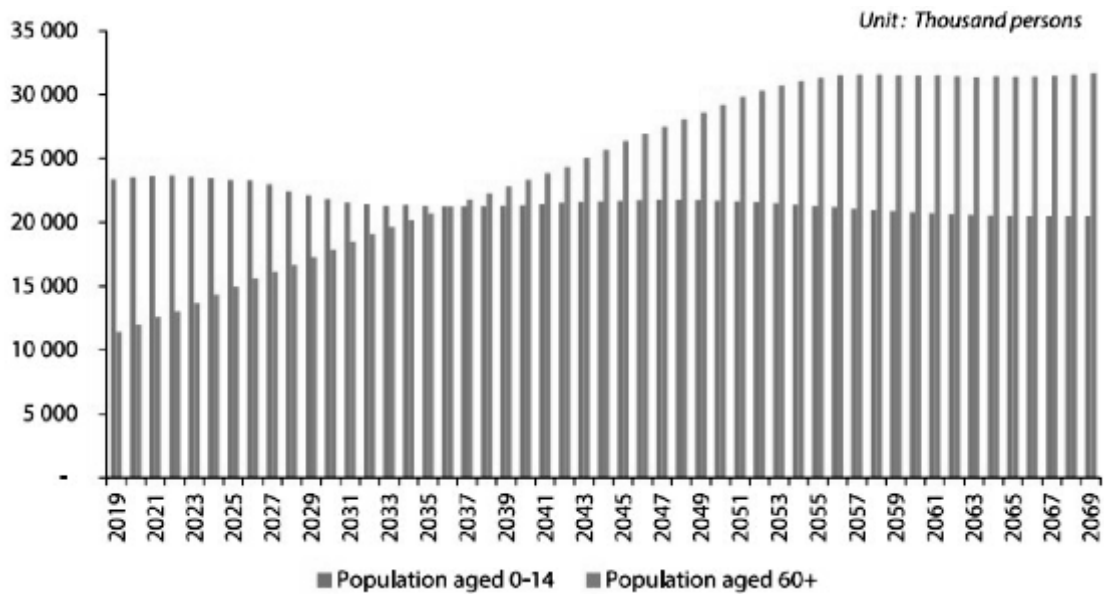


Figure 4. Population aged 0-14 and aged 60 and over, 2019-2069 [3]

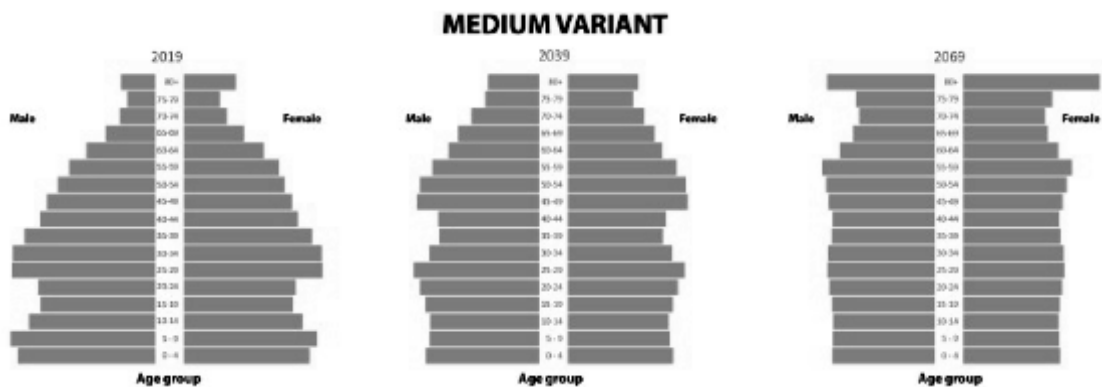
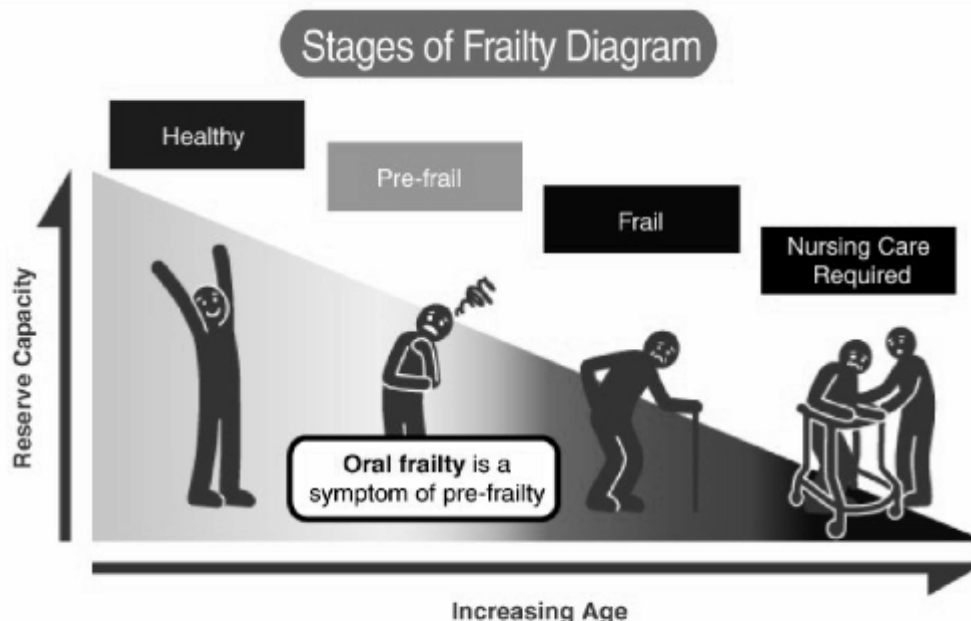


Figure 5. Population pyramids, 2019, 2039 and 2069 [3]

Attention should be paid to the rehabilitation of eating, chewing and swallowing disorders associated with long-term tooth loss. Therefore, there is a need for preparation for the aging wave in Vietnamese

society. However, there have been no studies documenting this issue in Vietnam recently. For the preparation of an aged society in the future, studies about oral health in the elderly should be encouraged.



Source: Prof. Katsuya Iijima, Institute of Gerontology, The University of Tokyo

Figure 6. Stages of frailty diagram with aging process [4]

2. MATERIALS AND METHODS

This narrative review was conducted a bibliographical electronic search was carried out on the database research of Vietnamese dental universities.

2.1. Criteria for considering studies for this review

A PIO (Population, Intervention, and Outcome) framework was utilized to guide the inclusion and exclusion of studies. Patients had partially

or completely edentulous mandible arches with age ranging from 60 years old (Population) were included. All kinds of dental treatment, such as dental filling, dental scaling, etc (Intervention) were included. All studies had to provide quality of life related to oral health (primary outcome) and the rate of periodontal disease, rate of tooth caries, rate of denture use (secondary outcome).

Table 1. Search strategy

SEARCH STRATEGY	Population	Patients had partially or completely edentulous mandible arches with the age ranged from 60 years old
	Intervention	All kinds of dental treatment, such as dental filling, dental scaling, etc
	Outcome	quality of life related to oral health (primary outcome) and the rate of periodontal disease, rate of tooth caries, rate of denture using (secondary outcome).
DATABASE SEARCH	Electronic search	bibliographical electronic search was carried out on the database research of Vietnamese dental universities, selecting all articles mentioned quality of life related to oral health, from 2000 to now
SELECTION CRITERIA	Inclusion criteria	Human clinical studies, full-text articles written in English and/or Vietnamese
	Exclusion criteria	Only abstract available, related to abnormal conditions as systematic diseases,

2.2. Search methods for identification of studies

This narrative review was conducted a bibliographical electronic search was carried out on the

database research of Vietnamese dental universities, selecting all articles mentioning quality of life related to oral health, from 2000 to now.



Figure 7. Rehabilitation of eating, chewing and swallowing disorders associated with long-term tooth loss

3. RESULTS AND DISCUSSION

A bibliographical electronic search was carried out on the database research of Vietnamese dental universities, selecting all articles dealing with quality of life related to oral health, from 2000 to

now. The results showed that 10 articles targeted the elderlies and evaluated oral health with primary and secondary outcomes (Figure 8). Geriatrics Research in Vietnam can be divided into three stages of period.

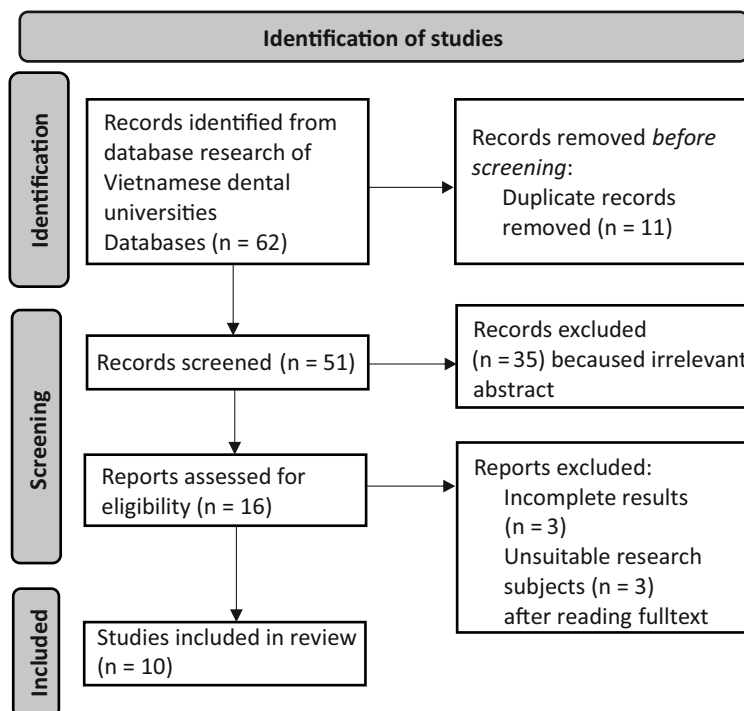


Figure 8. Flowchart of the search strategy, according to the PRISMA guidelines

*** Period 2000-2010**

1. Tran Van Truong et al (2002), National oral health survey, Medical Publishing House, 70-83.
2. Pham Van Viet et al (2004), Research on the status and needs of oral health care and evaluate the results of two years of implementing primary dental care for the elderly in Hanoi. Doctoral thesis in medicine, Hanoi Medical University, 64-75.

*** Period 2010-2020**

3. Tran Thi Tuyet Phuong et al (2011), The impact of oral health on the quality of life of elderly patients at Central Dental Hospital in Ho Chi Minh City. Master's thesis in medicine, Ho Chi Minh City University of Medicine and Pharmacy, 48-67.
4. Lam Kim Trien et al (2014), Impact of oral health on the quality of life of the elderly at some nursing homes in Ho Chi Minh City, Master's thesis in medicine, University of Medicine and Pharmacy,

City. HCM, 45-52

5. Nguyen TH et al (2015). Current status of periodontal disease and knowledge, attitudes, and dental care behaviors of the elderly in Thua Thien Hue province in 2015: Hanoi Medical University; 2015.

6. Nguyen Tra My et al (2015), Current status of some oral health issues and quality of life related to oral health of the elderly in Nhan Chinh ward, Thanh Xuan district, Hanoi, 2015. Essay Master's degree in medicine, University of Public Health, 40-54.

7. Luu Hong Hanh et al (2015), Current status of periodontal disease and some related factors of the elderly in Hanoi city in 2015. Master's thesis in medicine, Hanoi Medical University, 40-45.

8. Le Thi Thu Thuy et al (2016). Quality of life related to oral health in the elderly in Duc Linh district, Binh Thuan province. Ho Chi Minh City Medical Journal, 115-120.

* Period 2020-now

9. Trinh Sanh et al (2020). The situation of dental diseases and related factors of the elderly in area B Dai Loc, Quang Nam in 2020. Journal of Medicine and Pharmacy - Hue University of Medicine and Pharmacy, 3(12).

10. Vo Thi Thuy Hong et al (2022). Current status of periodontal disease and treatment needs of elderly people in Binh Duong province. Vietnam Medical Journal, 509(1).

From the research results about the oral health of the elderlies in Vietnam, the following information was included:

The rate of tooth caries in the elderly was 34.4% (95%CI: 31.9%-37.0%), the rate of dental fillings was only 2.1% (95%CI: 1.3%- 2.8%), the root caries rate was 8.15% (95%CI: 6.69%-9.61%) [9]. The tooth loss rate in people ≥ 60 years old ranged from 85.7 - 91% [6, 9]. This rate was 97.26% for the elderly over 75 years old. [1, 2] The rate of tooth loss in men was lower than in women [9]. The average number of missing teeth for people over 60 years old was about 10 teeth [6]. The percentage of elderly people with 20 natural remaining teeth was 64.4%, this percentage gradually decreases with age [9]. The edentulous rate in one upper or lower arch was 5.6% and in both arches was 6.9% [6].

The rate of using dentures was about 41% [7] On

the contrary, the demand for dentures is very high at 83.5% [9] 59.5% of elderly people have difficulty eating and chewing due to not being able to get dentures (difficult economic conditions) [12]. In general, the situation in Vietnam's elderly is that they lose teeth but do not have restorations, which may be due to difficult economic conditions and limited knowledge of dental care [8]. This affects overall health and quality of life.

About evaluation scales, most studies used subjective scales such as Oral health-related quality of life (OHRQOL), Geriatric Oral Health Assessment Index (GOHAI), etc. There has been no specific research focusing on objective scales for assessing oral health in elderlies until 2022. To evaluate oral health objectively, Japanese Society of Gerodontology proposed a new term, oral hypofunction, which was defined as a presentation of 7 oral signs or symptoms: oral uncleanness; oral dryness; decline in occlusal force; decline in motor function of tongue and lips; decline in tongue pressure; decline in chewing function; and decline in swallowing function in 2016. Oral hypofunction was diagnosed if 3 or more signs or symptoms were determined. This can be a new research field in aging society in Vietnam.

4. CONCLUSION

The results showed that 10 articles targeted the elderlies and evaluated oral health with primary and secondary outcomes. About evaluation scales, most studies used subjective scales such as Oral health-related quality of life (OHRQOL), Geriatric Oral Health Assessment Index (GOHAI), etc. There has been no specific research focusing on objective scales for assessing oral health in elderlies until 2022. Geriatrics research in Vietnam still has a lot of potential, especially when the population is aging. Examination of oral function should be paid attention in clinical treatment.

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Sức khỏe răng miệng ở người cao tuổi: Đánh giá và thực trạng nghiên cứu ở Việt Nam

Phạm Nguyên Quân

TÓM TẮT

Việt Nam bước vào giai đoạn già hóa dân số vào năm 2011 với tỷ lệ người cao tuổi chiếm 10% tổng dân số. Lão hóa không chỉ ảnh hưởng đến sức khỏe toàn thân mà còn ảnh hưởng đến sức khỏe răng miệng. Nhiều nghiên cứu đề xuất sử dụng thuật ngữ suy giảm chức năng miệng để đánh giá các hoạt động nuốt, nhai, phát âm. Báo cáo này nhằm cung cấp một góc nhìn tổng quan về đánh giá chức năng răng miệng và tình hình nghiên cứu vấn đề này ở Việt Nam. Trong giới hạn tìm kiếm dữ liệu, suy giảm chức năng răng miệng được đánh giá lâm sàng thông qua 7 tiêu chí. Để chuẩn bị cho xã hội già hóa, cần khuyến khích các nghiên cứu về suy giảm chức năng răng miệng.

Từ khóa: nha khoa lão khoa, suy giảm chức năng miệng, dân số già

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