



Health and Oral Health Factors related to Quality of Life of the Elders in Ninh Kieu district, Can Tho City, Vietnam.

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Abstract

Objective: The aim of this cross-sectional study was to assess the impact of health and oral health factors on quality of life of the elders in Ninh Kieu district, Can Tho city, Vietnam.

Materials and methods: Data were collected from 188 elderly samples aged 60 years and over including the oral examination by WHO criteria, structured interviews on the socio-demographic characteristics and the oral health related quality of life (OHRQoL) by the Oral Health Impact Profile-14, Vietnamese version (OHIP-14 VN) The Binary logistic regression models were used for outcome analyses.

Result: The remaining teeth (less than 20 teeth) and the poor health (having chronic disease) were associated with the poor quality of life of the elders. Higher and moderate impact in “physical pain” and “psychological discomfort” dimensions were observed.

Conclusions: Tooth loss and the poor health seemed to have the strongest negative impact on the quality of life of the elders. This finding emphasizes that oral diseases and chronic diseases share common risk factors, so the national health programs should incorporate disease prevention and health promotion by using a common risk factor approach.

Key words: the remaining teeth, oral health status, quality of life (QoL) oral health related quality of life (OHRQoL), OHIP-14

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Introduction

In 2005, the WHO issued a call to action over the global public health threat posted by chronic disease.¹ Only 20% of the non-communicable diseases (NCD) deaths occur in high income countries while 80% occur in low and middle income countries. Earlier, the United Nations 2002 estimated that by 2050, there will be 2 billion elderly people.² Chronic diseases are more prevalent in the elderly population, whose associated physiological changes may deprive them for their mobility and independence. The poor oral health also affect people's quality of life with respect to impaired eating, social appearance, and communication.^{3,4,5} The World Oral Health Report 2003⁶ emphasized that oral diseases are age related, that risk factors for chronic disease are common to most oral diseases, and that oral health is an integral part of general health and an important component of quality of life.

The number of aging population also grow rapidly in Vietnam. By the end of 2010 there will have 8 million elderly population (9.4% of total population)⁷ especially in Ninh Kieu district ; a political, economic and cultural center of Can Tho city, South Vietnam which will have more than 20,000 elderly people while scarce dental resources and available information of the OHRQoL. The purpose of this study was to assess the impact of health and oral health status on the quality of life of the elders.

Material and methods

This cross-sectional study was approved by Ethics Committee for Human Research, Faculty of Dentistry, Mahidol University and the permission from the Ninh Kieu Committee meeting. The target population was comprised of independent elders without physical and mental disabilities, aged 60 and over, living at least one year in 13 wards of Ninh Kieu district

and gave consent to participate in the study. From a total of 21,435 elders, a representative of 171 samples was randomly selected but 19 samples (10%) were added in order to compensate for incomplete information (n = 190)

A total of 188 participants were interviewed by the trained interviewer. First questionnaire was socio-demographic information such as age, gender, education level, occupation, family income, general health status and use of dental service. Second questionnaire was the Vietnamese version of the Oral Health Impact Profile (OHIP-14 VN) which got permission from the authors⁸. The questions included 14 questions, corresponding to 7 dimensions : functional limitation, pain, psychological discomfort, physical disability, psychological disability, social disability and handicap. Five-point Likert scale type assessment of the frequent impact within 1 year : 0 = never, 1 = hardly ever, 2 = occasionally, and 4 = very often and OHIP-14 score was calculated into 7 dimensions mean scores with standard deviation (SD) where the higher mean OHIP-14 score reflected the poorer OHRQoL. Oral health status was assessed through the caries experience (DMFT), the number of remaining functional teeth, prosthetic status and prosthetic treatment needs according to the WHO Criteria⁹. The oral examination were performed at the wards under the natural light by one clinical examiner (TLTN)

Study framework

Health – related quality of life as well as oral health – related quality of life are considered a multi-dimension concept. To gain a better understanding, in addition to clinical conditions, the socio-demographic profile and subjective conditions have also to be taken into consideration. Therefore in this study, it was hypothesized that OHRQoL of the

elders might be affected by oral health indicators (eg : decayed, missing, filled teeth, DMFT, remaining teeth and prosthetic status) and socio-demographic characteristics (eg : age, gender, SES, general health status and use of dental service) (Fig. 1)

Results

The distribution of the subjects according to the socio-demographic characteristics health and oral health status of the elders are in Table 1. The minimal age was 60 years and maximum was 92 years old. Elders with any chronic

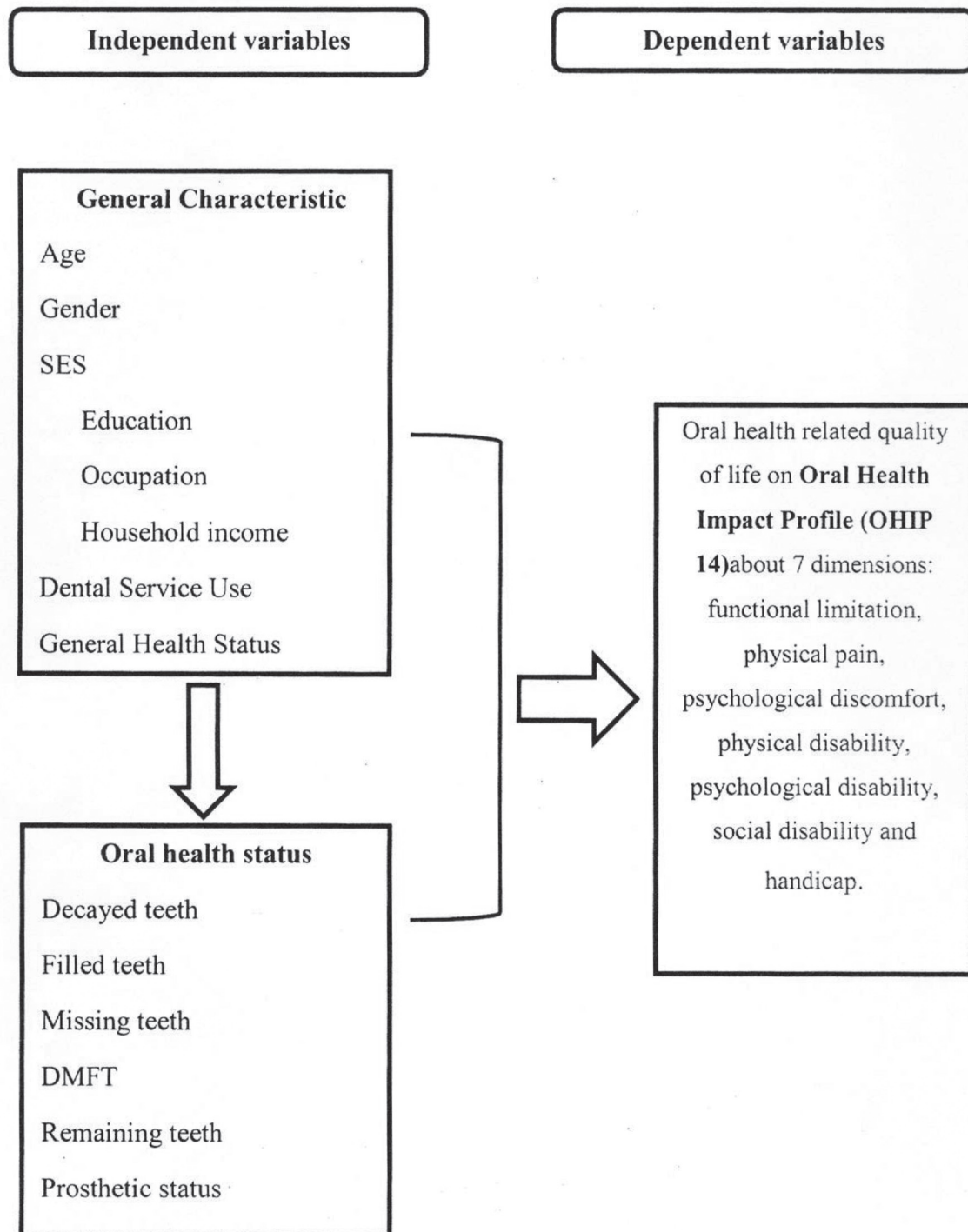


Figure 1 Conceptual framework

disease (eg. hypertension, diabetes, etc.), having decayed and missing teeth were very prevalent (83.5, 71.3 and 95.7% respectively.) In relation to the use of dental service, most of the elders did not visit a dentist during the last year and needed the prosthetic treatment (95.8%)

The mean OHIP score was 0.96 (SD = 0.61) with a range 0-41. When considering the dimensions of OHIP-14, the highest domains

were physical pain and psychological discomfort (Table 2)

When used simple logistic regression model to ease the number of independent variables by screening out some useless variables, only general health (OR = 2.49, CI 95%, 1.01 – 5.19, $p = 0.04$), remaining teeth (OR = 1.14, CI 95% 0.64-2.03, $p = 0.04$) decayed teeth (OR = 1.59 CI 95% 0.83 – 3.01 $p = 0.04$)

Table 1 Socio-demographic characteristics, health and oral health status of the elders (n=188)

Variables	Categories	n	%
Age	60-74	105	55.9
	>75	83	44.1
Gender	Male	65	34.6
	Female	123	65.4
Education	No formal education	30	16.0
	Informal education	25	13.3
	Level 1-5	54	28.7
	Level 6-12	50	26.6
	≥ Level 12	29	15.4
Occupation	Semi & unskilled	76	40.4
	Retired/unemployed	76	40.4
	Business, household keeper	17	9.0
	Professional & skilled	19	10.1
SES	Low	60	32
	Middle	44	23.3
	High	84	44.7
General health	Healthy	31	16.5
	Unhealthy	157	83.5
Decayed teeth	No decay	54	28.7
	Decayed	134	71.3
Remaining teeth	No missing	8	4.3
	≥ 20 teeth	87	46.3
	< 20 teeth	93	49.4
Prosthetic treatment need	Need	180	95.8
	No need	8	4.2
Use of Dental services	Used	71	37.8
	Not used	117	62.2

and not wear lower denture (OR = 2.15 CI 95% 0.95 – 4.90 p = 0.06) were associated with the bad quality of life (mean OHIP score ≥ 1) (Table 3).

From Table 4, the result showed that the most important oral health factor that influenced to quality of life was the remaining teeth (p = 0.04, CI 95% 0.17 – 2.74). Elders who had equal or more than 20 teeth had chance of good oral health related quality of life 1.03 times than those having less than 20 teeth. Meanwhile the elders who had no disease were 2.18 time more chance of good quality of life than those having disease (p = 0.04, CI 95% 0.94–5.04)

Discussion

This study was hypothesized that the elder’s oral health and related factors such as socio-demographic, general health status and use of dental service may exert the impact on their quality of life. The outcome which respect to general characteristics found only that general health status was associated with OHRQoL which similar to a study in Brazil¹⁰. It is different from a previous study in South Vietnam¹¹ which found that low SES group significantly had the chance to have tooth loss and impaired quality of life. This phenomenon is common in developing countries which less education, scarce health resources, poor access

and less affordability. But it is contrast to the finding in developed countries which poor health does not evitable mean poor quality of life^{12,13} while the elders who had the lower economic class¹⁴ and lower schooling perceived high impact on OHRQoL¹⁵

In respect to oral health status, the outcome showed that remaining teeth factors (less than 20 teeth) was the only oral health indicator which found associated with OHRQoL. The elders who had more or equal 20 teeth had better quality of life than who had less than 20 teeth, which is correspondent with a systemic review by Gerritsen et al¹⁶ that the negative impacts increase sharply once the number of teeth present drops below 20. It is almost agree with a study by Dahl et al¹⁷ which found the more teeth (21-28 teeth) the elders had, the lower OHIP score they got. This study also found similar result with previous studies¹⁸⁻²¹ that physical pain and psychological discomfort were the main affected dimensions to poor quality of life. This reinforce the current problem that oral health care has been based on a curative approach excluded adults and the elders who for the most part only received care in case of dental emergencies²²

Slade and Spencer²³ had suggested that measures of oral health status may also be used to advocate oral health. However, Locker²⁴ commended that clinical conditions alone do

Table 2 Distribution of OHIP – 14 items, means and standard deviation subscales

Domains	Mean	SD	Range
Functional limitation	1.01	0.98	0-7
Physical pain	1.58*	1.04	0-8
Psychological discomfort	1.25*	0.98	0-6
Physical disability	0.88	0.62	0-7
Psychological disability	0.90	0.82	0-6
Social disability	0.66	0.45	0-6
Handicap	0.99	0.81	0-7
Total	0.96	0.61	0-41

*high items mean score

Table 3 Logistic regression analysis of the dependent variable (code mean OHIP) and independent variable (socio-demographic, health and oral health status)

Variable	B	SE	Crude Odd ratio	95% confidence interval	p - value
Age					
- ≥ 75	0.37	0.29	1.46	0.82 – 2.6	0.19
- 60 - 74	-	-	1		
Gender					
Male	-0.36	0.30	0.69	0.38 – 1.27	0.24
Female	-	-	1		
SES					
- Low	-0.03	0.16	0.96	0.69 - 1.34	0.83
- Middle	-0.01	0.20	0.98	0.30 – 4.09	0.83
- High	-	-	-		
General health					
- Have disease	0.83	0.41	2.29	1.01 – 5.19	0.04 *
- No disease	-	-	1		
Use of dental service					
- No	-0.11	0.30	0.89	0.49 – 1.61	0.70
- Yes	-	1			
Remaining teeth					
- < 20 teeth	0.13	0.29	1.14	0.64 – 2.03	0.04 *
- ≥ 20 teeth	-	-	1		
Decayed teeth					
- Yes	0.46	0.32	1.59	0.83 – 3.01	0.04 *
- No	-	-	1		
Filled teeth					
- No	-0.49	0.43	0.95	0.40 – 2.24	0.91
- Yes	-	-	1		
Prosthetic status- upper jaw					
- Not wear	0.22	0.31	1.25	0.68 – 2.30	0.46
- Wear	-	-	1		
Prosthetic status- lower jaw					
- Not wear	0.76	0.41	2.15	0.95 – 4.90	0.06 *
- Wear	-	-	1		

* p < 0.15

not fully indicate how people feel affected by their oral status. By co-operate subjective and objective assessment, our understanding of oral disease has improved.

As proposed by Sheiham and Watt,²⁵ reported by Petersen and Yamamoto²⁶, most oral disease and chronic disease share common

risk factors, The outcome of this study reconfirmed the fact that rising burden of chronic disease in aging people, coupled with oral disease had negative impact on quality of life. To promote health, disease prevention program and for allocation of health resources both patient's perception of health and

Table 4 Causal association between good quality of life and potential risk factors

Factors	B	Adjusted OR	95% CI	p-value
Age				
- ≥ 75	0.51	1.67	0.89 – 3.15	0.10
- 60 - 74	-	1		
General health				
- Have disease	0.78	2.18	0.94 – 5.04	0.04 *
- No disease	-	1		
Remaining teeth				
- < 20 teeth	0.03	1.03	0.17 – 2.74	0.04 *
- ≥ 20 teeth	-	1		
Decayed				
- Yes	0.36	1.43	0.67 – 3.06	0.19
- No	-	1		
Prosthetic- lower jaw				
- Not wear	0.70	2.01	0.83 – 4.90	0.12
- Wear	-	1		

* p < 0.05

presence or absence of disease were importance for assessing²⁷⁻²⁹ and a common risk factor approach should be incorporated^{25,26}

The sample population of this study was a small size municipal, in order to gain a better understanding on oral health related quality of life (OHRQoL) of the elderly in Vietnam, a longitudinal perspective national survey would be justified.

It could be concluded that health and oral health showed to be related factors that can effects the quality of life of the elders in Ninh Kieu district, Can Tho city, Vietnam. The moderate and high degree of negative impacts on the oral health related quality of life were psychological discomfort and physical pain. To promote the quality of life of the fast growing elderly people, health planner should address the oral health and health factors which are shared common risk factors, and incorporate the common risk factor approach for the health promotion and disease prevention in the national health program.

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