Oral Health Problems among Adult Patients at Commune Health Centres in Central Vietnam: Prevalence and Care Seeking Behaviour

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Abstract— Introduction: **The burden of oral disease is an excessive issue of Vietnamese population while the accessibility of oral health services are restricted. This study were to identify the prevalence of dental caries and the oral health seeking behavior in response to oral health symptoms among adults presenting at commune health centers.** *Materials and Methods:* **A cross-sectional study was used at three commune health centres in Thua Thien Hue province, Vietnam. During the four-week study period, all patients older than 18 year old who presented to the commune health centres for either general or oral health concerns were asked to complete a social survey, and received dental examinations.** *Results and Discussion:* **There was a high proportion (92.2%) of adults had caries experience with a mean DMFT of 6.40±5.57 per person (2.98±3.04 decay teeth, 3.09±4.33 missing teeth, 0.33±0.88 filled teeth). 82.5% of adults had at least one oral health symptom in the previous year with several social and psychological impacts on quality of life. 42.5% used health facilities, 27.3% used self-medication, while 15.5% sought no treatment at all. Education level, usual source of dental care, and perceived importance of oral health were significantly associated with the use of oral health care services.** *Conclusions:* **Despite of the high use of health facilities, the high prevalence and severity of oral problems has occurred. This draws attention to large disease burden and very negligible oral health care received at such primary care settings.**

Keywords— **adult, oral health status, care seeking behaviour, Vietnam.**

I. INTRODUCTION

Poor oral health has a profound effect on general health and quality of life and represents a substantial burden for health systems worldwide [1]. The burden of oral disease is an excessive and unnecessary issue of Vietnamese population as dental caries affect more than 80% adults with a mean decayed, missing, and filled teeth score of 4.98 ±5.7, with most as untreated decay [2]. Primary health care settings in form of commune health centers (CHCs) in Vietnam, have taken the role of gate keeper, especially for special population groups with limited access to health care.Thus, they provide an ideal source of oral health care for communities in terms of prevention of oral diseases.

Many studies have been undertaken in industrialised countries to assess the nature and extent of oral health care utilization [3, 4]. Published studies in Vietnam appear to suggest a large proportion of non-utilization and low utilization of dental care. The National Oral Health survey in 1999 indicated that 55.5% of residents have never seen a dentist, of that over 60% living in rural areas [4]. Visits to dental-care facilities are mostly undertaken for symptomatic reasons rather than for preventive reasons [2, 4]. Thus, little has been published about the oral health care seeking behaviour and dental services utilization of Vietnamese population as well as impact of oral health care seeking behaviour on oral health status. The objectives of the present study were to identify the prevalence and severity of adult oral health problems presenting at CHCs and to examine the use of oral health services and self-medication in response to these problems.

II. METHODS

This was a cross-sectional study using quantitative approach. Three CHCs (one in urban and two in rural) in Thua Thien Hue province were randomly selected with the probability proportional population size to represent 150 communities of the whole province. In each CHC, participants were all eligible patients visiting for health care during the four-week period from 1st October 2011. In each day of data collection at CHC, all adult patients 18 years old or older were approached. The criteria and recording instructions used for survey form followed those stated in manual "Oral Health Surveys –Basic Methods", 4th edition, WHO 1997. A social survey using questionnaire to examine oral health seeking behavior among adult patients visited CHCs was conducted on all eligible patients.

Data were processed and analysed using the software SPSS 13.0. Calculated p values were two-tailed and statistical significant was defined as alpha of less than 0.05 ($p<0.05$). Logistic regression was performed in order to estimate the relative risk (Odds Ratio) of the independent variables explaining the oral health care seeking behaviour within one year.

Ethics approval was obtained from the School of Population Health Research Ethics Committee, The University of Queensland and Hue University of Medicine and Pharmacy.

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III. RESULTS

B. Sampling Characteristics

The study population consists of 799 patients who met the study eligibility criteria and received the dental examination (Table 1)

Table 1 Socio-demographic characteristics of study population

Variables	n	%	Variables	n	%
Age group, years (n=799)			**Education level (n=799)**		
18-34	143	17.9	Illiterate	75	9.4
35-44	151	18.9	Primary School	231	28.9
45-60	288	36.0	Secondary School	238	29.8
>60	217	27.2	High School	185	23.1
			College University	70	8.8
Gender (n=799)			**Residence (n=799)**		
Male	187	23.4	Urban	157	19.6
Female	612	76.6	Rural	642	80.4
Occupational status (n=799)			**Monthly income * (n= 747)**		
Employee	95	11.9	<400	71	9.5
Housewife	80	10.0	400 - 799	142	19.0
Independent workers	427	53.5	800 - 1,199	152	20.3
Unemployed	16	2.0	1,200 - 1,599	132	17.7
Elderly person	154	19.3	>1,600	250	33.5
Others	27	3.4			

** in thousand VND.*

C. Adult Oral Health

Evaluated Dentition Status by Clinical Examination

Of the 799 subjects selected, there was no edentulous person. In general, dental caries affected more than 90% adults with the mean DMFT of 6.40 per person (Table 2). The caries experience and prevalence as well as the severity in adults significantly statistically increased with increasing age (all $p < 0.001$).

Experience of Oral Health Problems

A striking high proportion of people had experienced at least one oral health symptom in the previous year (82.5%). Reporting of symptoms was generally similar for adults in terms of age, gender, income and education level. Among those declaring oral problems, more than half of adults reported the experience of dental or gingival problems. In addition, 57.1% of respondents stated that they more likely to avoid conversation because of oral health problems and 52.0% of adults reported sleep disturbance because of pain.

D. Oral Health Seeking Behaviour

Various predisposing factors significantly affected the probability of using oral health care facilities (Table 3). Higher education level, employee and perception that oral problems can cause other health problems or perceived positive importance of oral health significantly increased the probability of using health facilities. Regarding enabling and need factors, the prevalence of using health facilities was significantly higher for urban citizens, adults with insurance or having usual source of dental care and those who actively participate in social networks.

Table 2 Distribution on DMFT of adults by age group

Age group (years)	n	DMFT Mean±SD	DT Mean±SD	MT Mean±SD	FT Mean±SD	Caries prevalence N (%)
18-34	143	3.70±3.64[a]	2.77±3.08	0.47±0.90[a]	0.46 ±1.01[a]	116(81.1)[b]
35-44	151	4.62±3.77	2.62±2.74	1.48±1.83	0.52±1.00	136(90.1)
45-60	288	6.50±5.05	2.98±3.04	3.14±3.54	0.39 ±1.01	272(94.4)
>60	217	9.27±6.84	3.36±3.20	5.88±5.97	0.03 ±0.19	213(98.2) T
Total	**799**	**6.40±5.57**	**2.98±3.04**	**3.09± 4.33**	**0.33±0.88**	**737(92.2)**

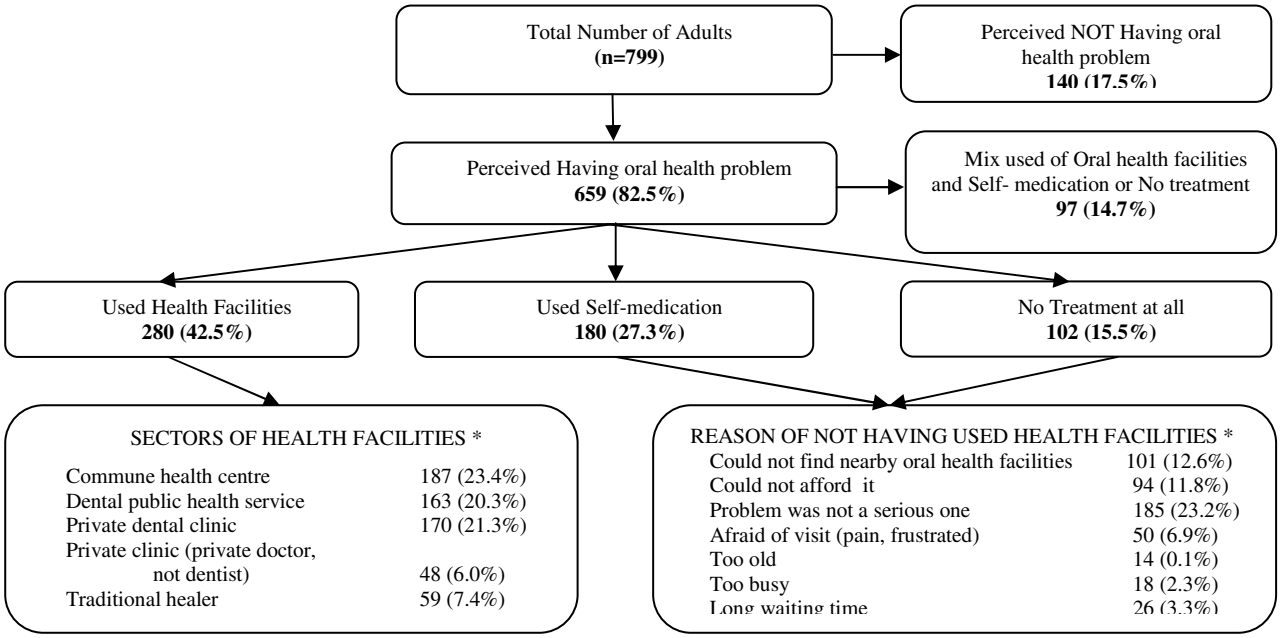
Notes: DT = decayed teeth; MT = missing teeth; FT = filled teeth; DMFT = caries decayed, missing, and filled teeth index.

[a] Column comparison, analysis of variance $p < .001$. [b] $\chi 2$ $p < .05$.

Table 3 Logistic regression results on the predictors associated with using health facilities among adults having experienced an oral problem

	Used health facilities N (%)	Crude OR	Adjust OR	95% CI	Sig.
Education level					
Illiterate	14(24.1)	0.14	0.10	0.03-0.35	0.000
Primary School	76(45.8)	0.36	0.28	0.09-0.84	0.023
Secondary School	93(54.1)	0.50	0.36	0.12-1.05	0.061
High School	71(55.0)	0.52	0.34	0.13-0.95	0.040
College University	26(70.3)[b]	1	1		
Occupational status					
Employee	41(68.3)[a]	3.45	3.11	0.77-12.67	0.112
Housewife	36(60.0)	2.40	3.51	0.76-16.30	0.109
Independent workers	144(47.4)	1.44	1.86	0.43-7.97	0.404
Unemployed	5(41.7)	1.14	1.72	0.28-10.72	0.560
Elderly person	49(43.4)	1.23	2.62	0.56-12.27	0.222
Others	5(38.5)	1	1		
I place great value on my dental health					
Agree	220(47.9)[a]	0.67	0.62	0.39-0.98	0.040
Disagree	60(58.3)	1	1		
Residence					
Urban	56 (59.6)[a]	0.62	0.64	0.37-1.10	0.106
Rural	224 (47.9)	1	1		
Insurance					
Yes	239(53.5)[b]	0.72	1.18	0.24-5.77	0.834
No	40(35.7)	1	1		
Usual source of oral health care					
Yes	117(75.0)[b]	4.50	3.88	2.48-6.07	0.000
No	163(40.1)	1	1		
Social networks					
No participation	115(47.1)	0.65	0.79	0.50-1.26	0.322
Weak participation	67(45.0)	0.59	0.87	0.52-1.46	0.596
Active participation	98(58.0)[a]	1	1		

Column comparison, Chi-square test, [a] $p<0.05$, [b] $p<0.001$.



**Multiple response.*

Fig. 1 Responses to an oral health problems

Among individuals who reported having experienced an oral health problem, 42.5% used health facilities, 27.3% reported self-medication, 14.7% mixed use of health facilities and self-medication and approximately 15.5% of adults chose no treatment at all (Figure 1). The nature of the problem: "problem was not a serious one" or "problem went away (by itself)" was cited by more than one-fifth of adults choosing no treatment in response to oral health problems

IV. DISCUSSION

Our results suggest an alarming situation that reflects one of the neglected high disease rates and very little oral health care service provision. 92.2% of adults had caries experience with a mean DMFT of 6.40±5.57 per person. These figures were higher than those of the National Oral Health Survey in which about 81.3% of subjects had caries experience with a mean DMFT of 4.98±5.7 [2]. In comparison with local oral health surveys, caries prevalence and severity in this study was a little higher compared to the local survey in 2000 [5], and on adults in general and adults visiting CHCs [6]. The correspondent data were 66.5% population affected with a mean DMFT of 2.24 and 85.0% patients suffered with a mean DMFT of 5.93, respectively.

The DMFT score has shown that the filled teeth were the smallest across all age groups in all centers. This pattern has been seen in other Vietnamese and developing countries' epidemiological surveys conducted in recent years [7-9]. At health care system's level this situation might speaks for shortcomings of existing oral health promotion-programmes in controlling dental caries, thus demanding their revision.

Our data among adult patients visiting CHCs revealed profound social and psychological impacts of oral health problems on quality of life, which are not obvious from clinical measures of oral disease. Oral health symptoms reported by residence were consistent with results of a national survey in which dental and gingival problems were dominant [2]. In response to oral problems a high percentage of adults sought treatment in health facilities. Of particular interest is the similar frequency of facility choice for professional oral health care facilities (public or private dental facilities) and CHCs. This suggests evidence of using non-dentist health care providers for treatment of oral problems that was consistent with other reports [10-13].

The prevalence of self-medication for oral health problems (27.3%) in this study was much lower than the figure of 67.8% reported in a community-based research survey in Cameroon [14] and 42.0% reported in hospital-based research in Nigeria [15]. The different prevalence implies that hospital-based research might not be as valid as community-based research in quantifying the actual magnitude of oral health behaviour.

Delay or no treatment was other common practice in the present study. A high prevalence of patient's delay has also been reported in studies from other developing countries [16, 17]. Research addressing these issues is rare in Vietnam,

despite its value of not only informing individuals to adopt a particular dental health action, but also potentially helping overcome obstacles in the way of accessing care [18].

Various factors significantly affected the probability of using oral health care facilities. One of the major barriers to seeking professional care was education level, as adults with lower level were less likely to use health facilities in response to oral problems. A similar pattern was reported in previous studies [19-21]. Our study also confirms the higher impact of perceived importance of oral health in response to illness episode than other health belief factors (perceived seriousness of oral disease and perceived benefits of visits) [19, 22, 23]. Having a usual source of oral health care is an indicator of an individual's linkage with the oral health care system. Such a finding corroborates various oral health care utilization studies in both developed and developing countries [21, 24, 25]. Health benefit is another aspect of the health care system that needs to be considered. In the present study, the absence of insurance was not a barrier to obtaining oral health care. This could be explained by the fact that data were collected in CHCs, and the majority of participants were health care cardholders. Thus, the comparison of insurance' effect between people with and without insurance was limited. Yet this may suggest a greater impact of having usual sources of dental care on an individual's oral health services utilization than insurance coverage.

V. CONCLUSION

Our study strongly confirms the prevalent oral health diseases and the unmet dental needs presented substantially in adult patients presenting at primary care practice settings. There is a strong call for a program for prevention and control of caries in adults presenting at primary care level. Furthermore, a wide range of health facilities used by the community associating with the high prevalence of self-medication reported in this study necessitate awareness creation and introduction of preventive and mitigating interventional programmes. The primary oral care component of the health care system should be strengthened to improve access to needed health care services.

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CONFLICT OF INTEREST

The authors declare that they have no conflict of interest.

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